NHS Outcomes Framework

England, February 2017 Quarterly Publication

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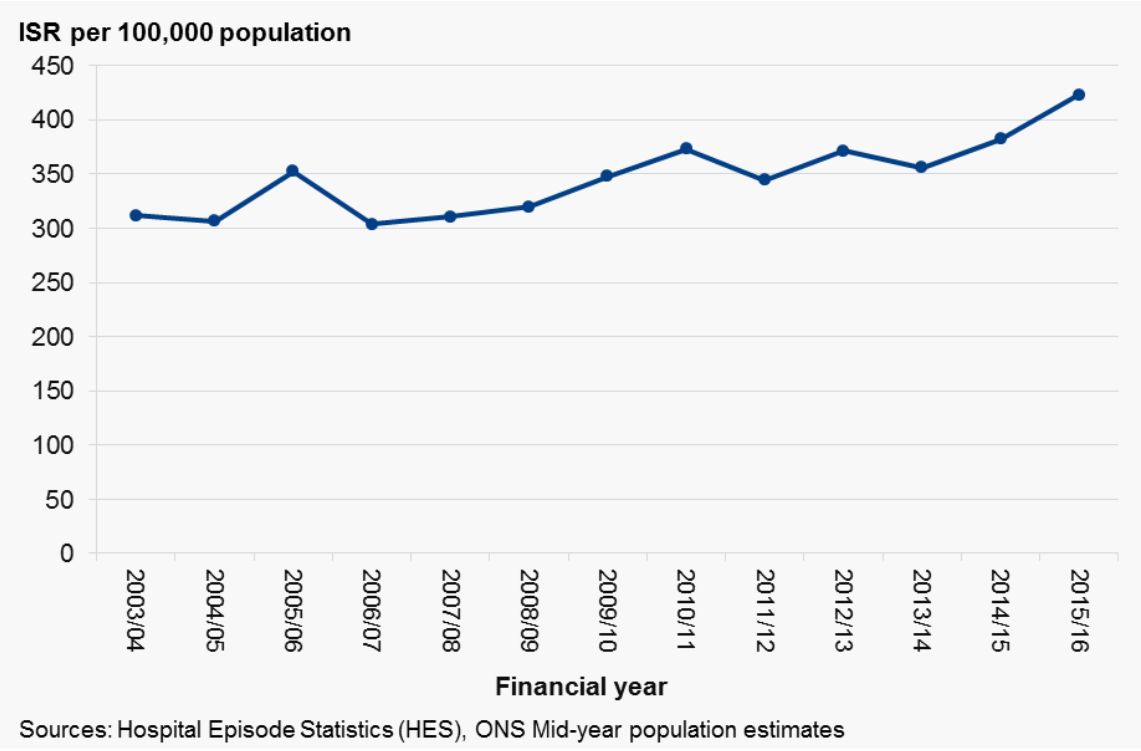
The NHS Outcomes Framework (NHS OF) is a set of indicators developed by the Department of Health to monitor the health outcomes of adults and children in England. The framework provides an overview of how the NHS is performing. This report provides information about the indicators updated in this release.

Key findings

- There are eleven indicators with new national data points in this release. Updated demographic and geographic breakdowns are also available for some of these indicators. A further four indicators have new deprivation data.
- The indicators cover a range of topics including emergency admissions to hospitals, tooth decay in children, life expectancy and cancer survival rates.
- The chart below shows that the indirectly standardised rate (ISR) of admissions for children with lower respiratory tract infections (LRTIs) significantly increased by 10.6 per cent over the latest time period.

Figure 1: Rate of emergency admissions for children with LRTIs (indicator 3.2), 2003/04 to 2015/16



Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

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Contents

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This product is used by the Department of Health and NHS England. It may also be of interest to members of the public, provider managers, commissioning managers, clinicians and patients to support the understanding of health-related outcomes at national and local level across the health and care system.

Introduction

The NHS Outcomes Framework (NHS OF) is a set of indicators developed by the Department of Health to monitor the health outcomes of adults and children in England. The framework provides an overview of how the NHS is performing. Further information about the background to the framework and the people who use the framework can be found at the below links.

Background information link

Users and uses link

This report provides information about the indicators updated in this release. A summary table of all updated indicators and progress over time is included in the *Main findings* section. More detailed analysis on a selection of the indicators can be found in the *Commentary* section and a list of the updated time periods, breakdowns and data sources are included in *Appendix 1*.

The latest data and background information for all indicators can be found on our Indicator Portal, using the left hand panel at the below link. For data files, quality statements and specification documents please select the domain and indicator of interest. For a dashboard of all the latest indicator values and a schedule of future updates, select the NHS OF summary dashboard page.

Indicator portal link

Main findings

The following table shows the main findings for the 11 indicators with new national data points in this release. Descriptions of the change categories used in this table can be found in *Appendix 2*.

Figure 2: Main findings

Indicator title	Latest data available	Indicator value	Unit	Change over latest time period	Change over last five years	Latest findings
1b.i Life expectancy at 75 - Males	2015	11.6	period expectations of life - years	Not Tested - Similar	Not Tested - Improved	Indicator usually sees very small increases each year. Has changed by 0.9 per cent over the latest year and improved by 2.7 per cent over the last 5 years.
1b.ii Life expectancy at 75 - Females	2015	13.2		Not Tested - Similar	Not Tested - Similar	Indicator has generally increased over time but has fluctuated over last 5 years. Current value is similar to previous year, indicator was 13.3 years in 2014.
1.4.i One-year survival from all cancers	2015	70.4	%	Not Tested - Similar	Not Tested - Improved	Indicator continues to increase by very small amounts each year, from 59.2 per cent at the start of the time series (for 1997 follow ups). Value has improved by 4.9 per cent over the last 5 years.
1.4.ii Five-year survival from all cancers	2015	49.9	%	Not Tested - Similar	Not Tested - Improved	Similar trend to one-year cancer survival. Small increases each year, from 41.4 per cent at the start of the time series (for 2001 follow ups). Value has improved by 6.2 per cent over the last 5 years.
2.2 Employment of people with long-term conditions	Jul-Sep 16	12.6	% gap	Not Tested - Similar	Not Tested - Deteriorated	No clear trend at the moment. The lowest value was an 11.2 percentage point gap in Q1 2010, but it has fluctuated between roughly 12 and 14 percentage points in recent years.
2.3.i Unplanned hospitalisation for chronic ambulatory care sensitive conditions (all ages)	2015/16	812.4	per 100,000 population	Significantly Deteriorated	Significantly Deteriorated	The indicator was generally improving up to 2011/12 but the admission rate has increased since then. Rates have significantly increased by 0.6 per cent over the latest year and by 1.3 per cent over the last 5 years.
2.3.ii Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s	2015/16	311.7	per 100,000 population	Significantly Improved	Significantly Improved	The indicator can fluctuate between years by up to 10.7 per cent but over the last ten years, the number has reduced significantly by 19.9 per cent.
2.5.i Employment of people with mental illness	Jul-Sep 16	34.4	% gap	Not Tested - Similar	Not Tested - Improved	The value can fluctuate between quarters but overall it continues to trend downwards. The size of the gap has reduced by 6.1 percentage points over the last 5 years.
3a Emergency admissions for acute conditions that should not usually require hospital admission	2015/16	1,318.9	per 100,000 population	Significantly Deteriorated	Significantly Deteriorated	This indicator continues to deteriorate, it has increased by 34.2 per cent over the last 10 years.
3.2 Emergency admissions for children with lower respiratory tract infections	2015/16	422.7	per 100,000 population	Significantly Deteriorated	Significantly Deteriorated	This indicator is currently deteriorating, the value has increased by 39.2 per cent over the last 10 years.
3.7.ii Tooth extractions due to decay for children admitted as inpatients to hospital, aged 10 years and under	2015/16	425.0	per 100,000 population	Significantly improved	Significantly improved	Indicator has fluctuated over the 5 year time series but has seen improvements of -8.0 per cent over the latest year and -4.6 per cent over the last 5 years.
5.1 Deaths from VTE related events within 90 days post discharge from hospital	2015/16	64.3	per 100,000 admissions	Not Tested - Improved	Not Tested - Improved	Indicator decreased by 5.9 per cent over the latest year but has fluctuated over the last 5 years.

Notes on this release

The February 2017 release also includes new deprivation data points for the following four indicators:

- 1.1 Under 75 mortality rate from cardiovascular disease
- 1.2 Under 75 mortality rate from respiratory disease
- 1.3 Under 75 mortality rate from liver disease
- 1.4 Under 75 mortality rate from cancer

In addition to the new national data for indicator 1b – life expectancy at 75 (2013-15 reporting period), data for the reporting periods 2001-03 to 2012-14 (inclusive) have been revised. This is due to a methodology change, which has allowed the production of more accurate estimates of life expectancy. For further details on the extent and scale of the changes, please see the **Indicator 1b - Changes to the previous data** section of this report.

The three-year reporting periods prior to 2001-03 for this indicator have been removed from the data file since estimates calculated using the old and new methods cannot be compared. The older reporting periods will not be replaced.

We are working on a new confidence interval methodology for the slope index of inequality which is presented alongside indicator 1b and plan to update the data file in the next release.

Indicators 1.4.i and 1.4.ii were due to be updated in the May 2017 release but data became available earlier than expected and they are now included in this release.

Indicator 1.6.ii, Five-year survival from all cancers in children, was due to be updated in this release but the source data have not yet become available. We hope to be able to update this in the next release.

Commentary

The following sections provide more detailed commentary on some of the indicators updated in this release. The following indicators are included:

- 1.1 Under 75 mortality rate from cardiovascular disease
- 1.2 Under 75 mortality rate from respiratory disease
- 1.3 Under 75 mortality rate from liver disease
- 1.4 Under 75 mortality rate from cancer
- 1.4.i One-year survival from all cancers
- 1.4.ii Five-year survival from all cancers
- 1b Life expectancy at 75 - i. Male ii. Female
- 2.3.i Unplanned hospitalisation for chronic ambulatory care sensitive conditions
- 2.3.ii Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s
- 3a Emergency admissions for acute conditions that should not need hospital admission
- 3.2 Emergency admissions for children with lower respiratory tract infections
- 3.7.ii Tooth extractions due to decay for children admitted as inpatients to hospital
- 5.1 Deaths from venous thromboembolism (VTE) related events

Domain overviews are also included in this section to give further information about the relevance of each topic.

Domain 1 - Overview

Domain 1 is concerned with preventing people from dying prematurely. The NHS should be preventing people from dying prematurely by promoting good health and discouraging behaviours that put health at risk. Where people do develop a condition, the NHS has a responsibility to diagnose this as early as possible and manage it so that it does not deteriorate.

Indicators 1.1 to 1.4 - Overview

Indicators 1.1 to 1.4 show the under 75 mortality rates from the major causes of death. These are cardiovascular disease, respiratory disease, liver disease and cancer.

For adults, cardiovascular disease (indicator 1.1), respiratory disease (indicator 1.2) and cancer (indicator 1.4) account for around 90 per cent of the disease burden amenable to healthcare and trends in these indicators therefore provide an initial analysis of what might have caused changes to the domain 1 overarching indicators, 1a.i and 1a.ii.

However, not all deaths from these diseases are considered amenable to healthcare. It is estimated that 77 per cent of cardiovascular disease, 27 per cent of respiratory disease and 23 per cent of cancer deaths are considered amenable[1]. Only 2 per cent of deaths from liver disease (indicator 1.3) are considered amenable.

These mortality indicators include deaths from all types of the diseases, regardless of whether they are amenable or not. All types are included because the NHS can contribute to reducing deaths from amenable and non-amenable causes.

These indicators are presented as directly age-standardised (DSR) rates per 100,000 population. DSRs show the rate of deaths that would occur in the standard population (the ONS European standard population) if that population were to experience the age-specific rates of the subject population (England).

This is important because different countries have different age structures. If all countries standardise their data to the same standard population this creates a level playing field for us to make fair comparisons. This also applies for the other breakdowns in the data files, all categories can be directly compared to each other, having accounted for differences in the age distribution between areas.

The methodology for creating the DSRs can be found in the domain 1 specification document on the indicator portal (link on page 4).

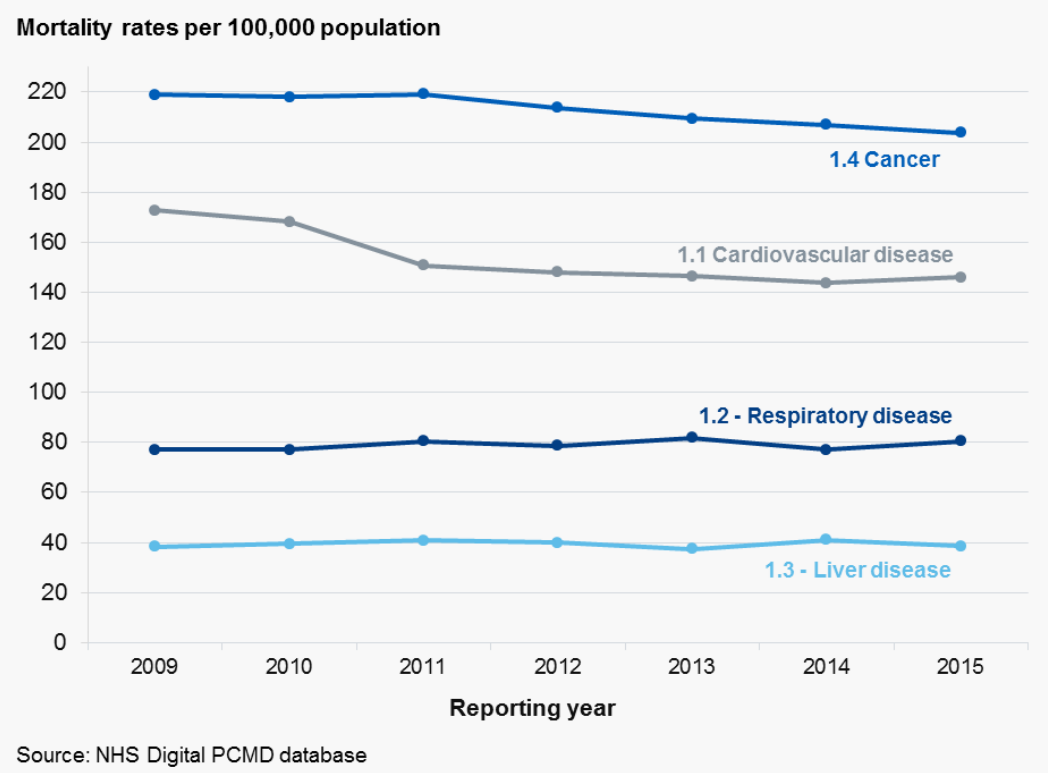
[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/385751/NHS_Outcomes_Tech_Appendix.pdf

Indicators 1.1 to 1.4 - New deprivation data

The deprivation breakdowns for indicators 1.1 to 1.4 have been updated with 2015 data in this release. All other breakdowns for the 2015 reporting period were updated in the November 2016 release, further details on these breakdowns can be found in the November 2016 commentary report.

The following chart looks at the trends in mortality rates over time for people in the most deprived decile in England.

Figure 3: Under 75 mortality rates from cardiovascular / respiratory / liver disease and cancer for the most deprived 10 per cent of people in England (indicators 1.1 to 1.4), 2009 to 2015



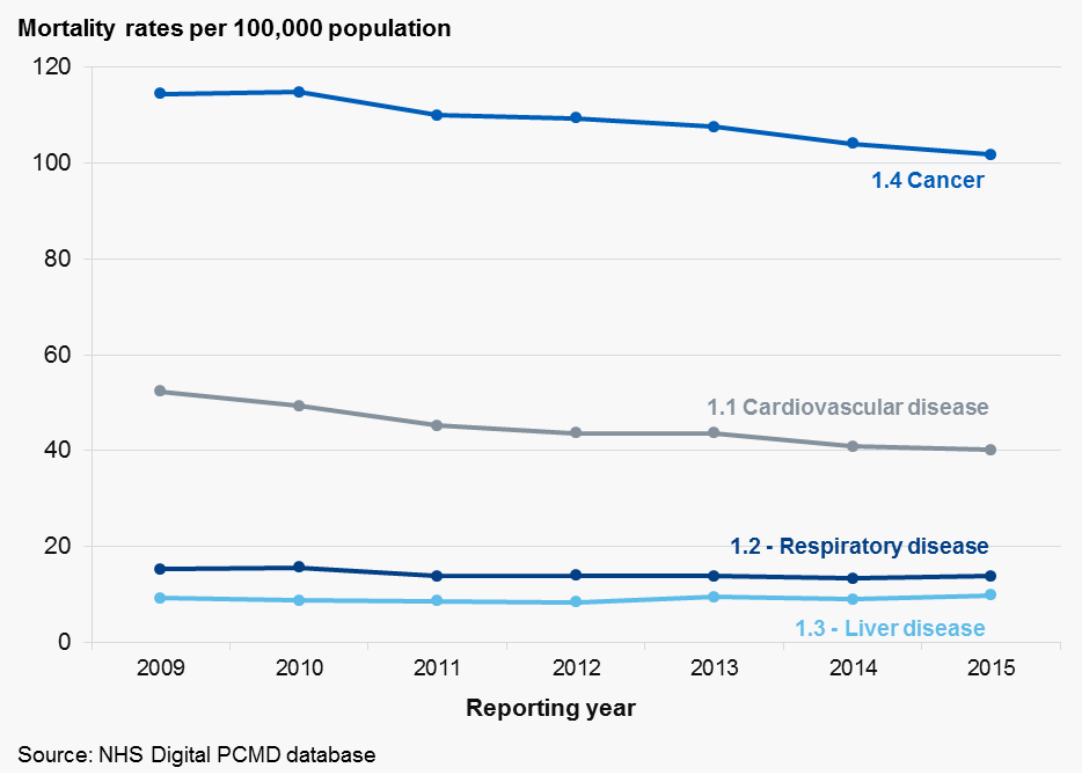
Source: NHS Digital PCMD database

The chart suggests that in 2015, mortality rates for the most deprived people in England have increased slightly for cardiovascular and respiratory disease but have decreased slightly for liver disease and cancer. However, none of these changes were statistically significant so this could be due to natural variation in the data.

Most of the national indicator values did not show any significant changes either in 2015. Indicator 1.2 was the only rate to show a significant change, increasing by 6.6 per cent to 34.0 deaths per 100,000 population.

The following chart looks at the trends in mortality rates over time for people in the least deprived decile in England.

Figure 4: Under 75 mortality rates from cardiovascular disease, respiratory disease, liver disease and cancer for the least deprived 10 per cent of people in England (indicators 1.1 to 1.4), 2009 to 2015



Source: NHS Digital PCMD database

Although the chart suggests small changes for the least deprived deciles between 2014 and 2015, none of the changes were statistically significant.

Looking at the scale of the vertical axis on the above chart, we can see how different the mortality rates are for the least deprived people in England compared to the most deprived people in the previous chart.

For example in 2015, while the least deprived 10 per cent of people had an average mortality rate from respiratory disease of 13.8 deaths per 100,000 population, the rate for the most deprived 10 per cent was almost six times higher, at 80.6 deaths.

This pattern is similar for the other mortality indicators; the cancer mortality rate for the most deprived group is twice as high, and the liver disease and cardiovascular disease mortality rates are both around four times as high as those for the least deprived group. This shows high levels of inequality in mortality rates.

Indicators 1.4.i and 1.4.ii - Overview

These indicators measure the one-year and five-year net survival rates from all cancers except for non-melanoma skin cancer and prostate cancer. Net survival is the estimated probability of survival from cancer alone; it measures the survival of cancer patients after taking into account the background mortality that the patients would have experienced if they had not had cancer.

The indicators were included in the framework in order to monitor how well the NHS is preventing people from dying of cancer once they have been diagnosed. This remains a key priority for the government. In 2015, the Independent Cancer Task Force[2] developed a new five-year cancer strategy for England. It was universally backed by arms-length bodies, the government and the wider health community. NHS England have now adopted this strategy and are aiming to meet all of its ambitions by 2020.

NHS England have published a plan[3] of how they will achieve this and six key work streams have been identified:

- Spearhead a radical upgrade in prevention and public health
- Drive a national ambition to achieve earlier diagnosis
- Establish patient experience on par with clinical effectiveness and safety
- Transform our approach to support people living with and beyond cancer
- Make the necessary investments required to deliver a modern, high-quality service
- Ensure commissioning, provision and accountability processes are fit-for-purpose

The NHS OF cancer survival indicators contain national level data for three different age groups; age 15 to 99 (national indicator value), age 55 to 64 and age 75 to 99. The trends for each indicator and age group are discussed in the following pages.

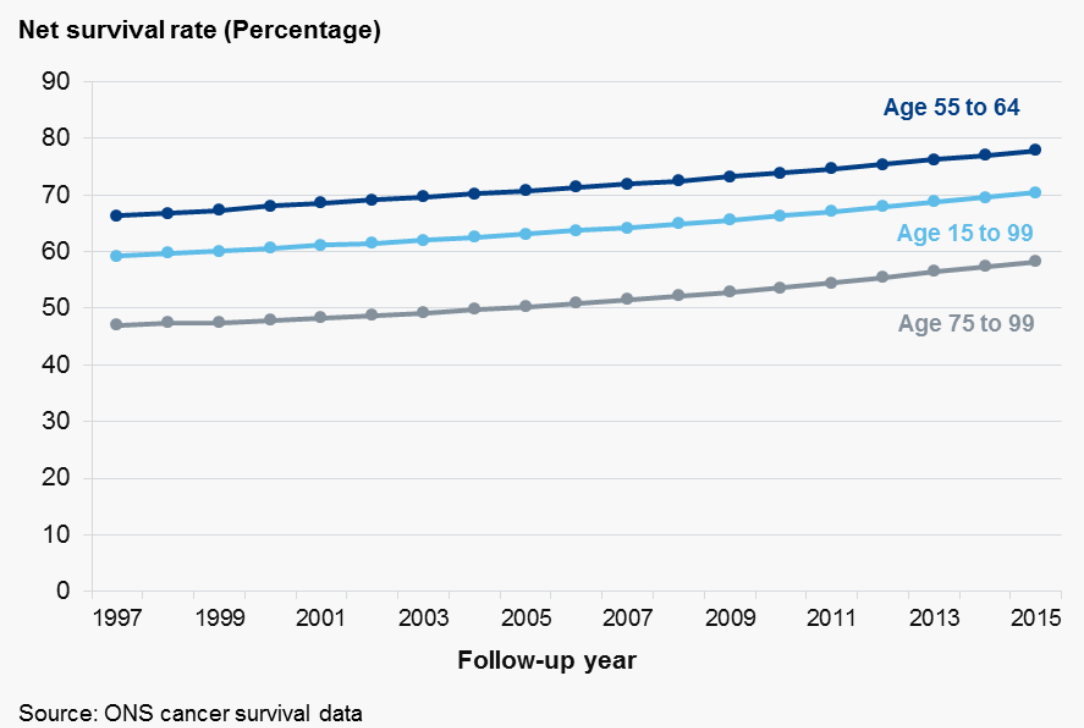
Confidence intervals are not currently available for these indicators and we are therefore unable to test the statistical significance of the following findings.

[2] http://www.cancerresearchuk.org/sites/default/files/achieving_world-class_cancer_outcomes_-_a_strategy_for_england_2015-2020.pdf
[3] https://www.england.nhs.uk/wp-content/uploads/2016/05/cancer-strategy.pdf

Indicator 1.4.i - One-year cancer survival rates

The following chart shows the trend in one-year net survival rates in England.

Figure 5: One-year net survival rates from all cancers by age group and year (indicator 1.4.i), follow-up years 1997 to 2015



The chart suggests that one-year net survival rates continue to improve for all of the age groups studied. The rate of improvement has been faster over the second half of the time series; over the latter half of the time series they have improved by an average of 1.2 per cent each year compared to an average of 0.8 per cent in the first half of the time series.

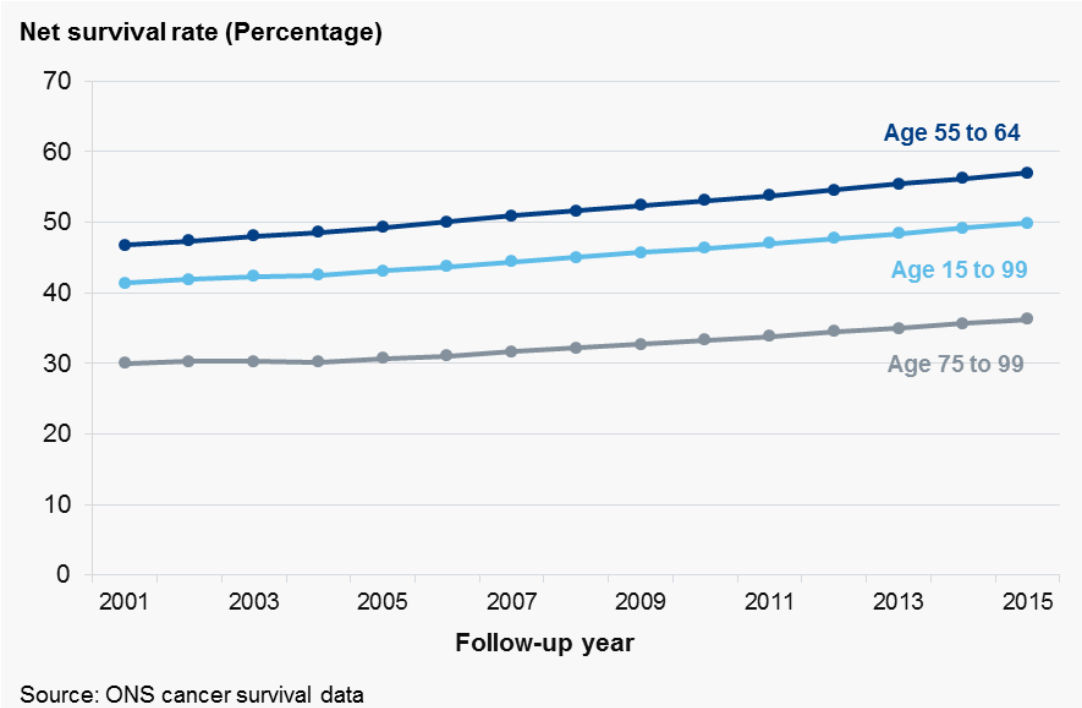
The latest indicator values show that the one-year net survival rate for 75 to 99 year olds was 58.2 per cent for individuals with follow-ups in 2015. Survival rates continue to be higher for the 15 to 99 years age group (70.4 per cent in 2015) and for the 55 to 64 years age group (77.9 per cent in 2015).

The survival rates have increased substantially over the whole time series, since the first follow ups were completed in 1997. The survival rates for 15 to 99 year olds and 55 to 64 year olds have seen similar rates of improvement, increasing by 18.9 and 17.5 per cent respectively over this period. The 75 to 99 age group saw a greater level of improvement over this time frame, with survival rates increasing by 23.8 per cent.

Indicator 1.4.ii - Five-year cancer survival rates

The following chart shows the trend in five-year net survival rates in England.

Figure 6: Five-year net survival rates from all cancers by age group and year (indicator 1.4.ii), follow-up years 2001 to 2015



The chart shows similar trends for five-year survival rates as those seen for the one-year survival rates. The chart suggests that five-year net survival rates continue to improve for all of the age groups studied.

The rates of improvement for each age group have been higher over recent years for this indicator than for the one-year indicator; the five-year rates have improved by an average of 1.6 per cent in each of the last nine years compared to an average increase of 1.2 per cent each year for the one-year rates over the same time frame.

The latest indicator values show that the five-year net survival rate for 75 to 99 year olds was 36.3 per cent for individuals with follow-ups in 2015. Survival rates continue to be higher for the 15 to 99 years age group (49.9 per cent in 2015) and for the 55 to 64 years age group (57.0 per cent in 2015).

As in indicator 1.4.i, the rates for 1.4.ii have increased substantially over the whole time series, since the first follow ups were completed in 2001. The five-year survival rates for all age groups have seen similar levels of improvement over this time frame, increasing by between 20.5 and 21.8 per cent.

Indicator 1b - Overview

Indicator 1b measures life expectancy at 75. This indicator was selected for the NHS OF to address concerns that the framework neglects premature deaths in older people. Many domain 1 indicators focus on people younger than 75 years old because of the difficulty in ascribing cause of death for older people where multiple diseases may be present. However, many deaths of people over 75 are considered premature and this indicator provides a method for monitoring this.

The life expectancy figures estimate the average number of additional years a man or woman aged 75 could be expected to live if they continue to live in the same place and the death rates in their area remain the same for the rest of their life. For example, life expectancy at age 75 in 2013 is calculated using the mortality rate for age 75 in 2013, for age 76 in 2013, for age 77 in 2013, and so on. This methodology is called a 'period' life expectancy.

Using mortality rates from a single year means that any future changes to mortality rates are not taken into account. In practice, death rates are likely to change in the future, so period life expectancy does not give the number of years someone could actually expect to live. Also, when looking at specific geographical areas, the method makes no allowance for the different areas people may live in for at least some part of their lives which may have different mortality rates.

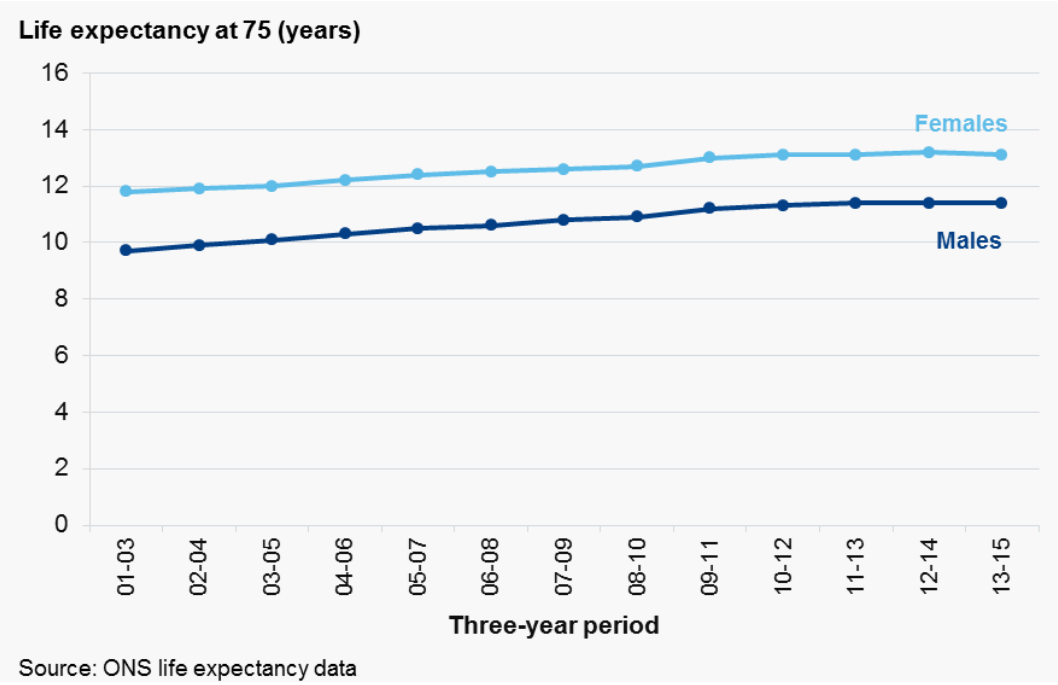
However, period life expectancies are used in this indicator because they provide a useful measure of mortality rates actually experienced over a given period and for past years, provide an objective means of comparison of the trends in mortality over time, between areas of a country and with other countries.

The data file for this indicator contains two types of figures. Both types use period life expectancies but the single-year reporting periods are calculated from complete life tables (using mortality rates for each year of age) and the three-year reporting periods are calculated from abridged life tables (using mortality rates for five-year age bands). The three-year reporting periods are used because they provide more robust estimates at sub-national level due to the larger groups of people used in the calculations.

Indicator 1b - National life expectancy values

The following chart looks at the national life expectancy estimates for the three-year reporting periods.

Figure 7: Life expectancy at age 75 by three-year period and gender (indicator 1b), 2001-03 to 2013-15

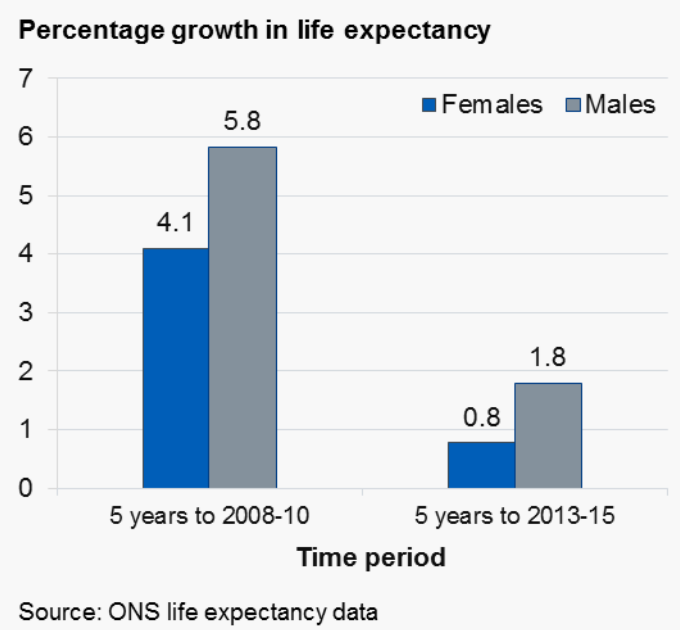


Source: ONS life expectancy data

The chart shows that for both males and females, life expectancy at age 75 has increased over the time series. In 2013-15, remaining life expectancy was 13.1 years for females and 11.4 for males. However, neither of these values saw significant changes in 2013-15 compared to their respective values in 2012-14.

The chart suggests that improvements in life expectancy are slowing and over the last few reporting periods, the indicator values have remained very similar. The following chart looks at the percentage change in the indicator values over the last five reporting periods and compares this to the change over the previous five reporting periods to examine whether growth is slowing.

Figure 8: Percentage growth in life expectancy by time period and gender (indicator 1b), five years to 2008-10 and five years to 2013-15



The chart clearly shows that growth in the indicator values is slowing for both males and females. Over the five years to 2008-10, life expectancy increased by 4.1 per cent for females and 5.8 per cent for males. The equivalent values for the latest five years to 2013-15 were smaller, at 0.8 and 1.8 per cent respectively which suggests improvements in life expectancy are slowing. All of these changes were statistically significant increases.

Indicator 1b - UK life expectancy values

The data for this indicator are sourced fully calculated from the Office for National Statistics' (ONS) publications. ONS publish a number of bulletins and data files about life expectancy on their website. Their latest 'Health state life expectancies' publication[4] states that a newborn baby boy could expect to live 79.2 years and a newborn baby girl 82.9 years if mortality rates remain the same as they were in the UK in 2013 to 2015 throughout their lives. Life expectancy for the UK has increased over time but the proportion of life spent in good health is falling.

The ONS analysis also shows there is high inequality in life expectancy across different areas of the UK. The highest life expectancy at birth for males is 83.4 years in Kensington and Chelsea (London, England), the lowest is 73.4 years in Glasgow City (Scotland). The highest estimate for females is 86.7 years in Hart (South East of England); the lowest is 78.7 in West Dunbartonshire (Scotland).

[4] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/healthstatelifeexpectanciesuk/2013to2015

Indicator 1b - Inequality in life expectancy values

In November 2016, the slope index of inequality (SII) and relative index of inequality (RII) were added to the data files for indicator 1b.

The SII data measure the absolute extent of variation in life expectancy between people living in areas of differing deprivation. The calculation is based on a statistical analysis of the relationship between life expectancy and deprivation across all deprivation deciles.

An SII value of 3.0 in the context of this indicator shows that the range in life expectancy across the social gradient from most to least deprived is 3.0 years. A value of zero indicates complete equality, therefore reducing the SII value is desirable.

The RII provides additional information to help interpret the SII by considering how the level of absolute inequality compares with the level of the national indicator. The RII is expressed as a proportion of the national indicator value, therefore an increase in the RII indicates that the extent of the inequality is increasing as a proportion of the overall indicator value.

An RII value of 0.22 in the context of this indicator shows that the absolute extent of inequality equates to 22 per cent of the indicator value. This value would be zero where there is complete equality, therefore a reduction of the RII over time is desirable.

Care should be taken when interpreting change in the SII because absolute inequality can increase if the same rate of improvement is made in every deprivation decile. In this situation, looking at the SII value alone would indicate that the absolute level of inequality is getting worse. However, looking at the wider picture of improving life expectancy for all deprivation deciles, there would also be a positive element to the situation.

For example, if life expectancy for all deprivation deciles increased by 10 per cent, then the SII would increase by 10 per cent, i.e. the absolute difference between the most and least deprived decile has widened. In this case, the RII would remain constant, indicating that while the absolute extent of inequality has increased, the inequality relative to the average indicator value would be stable.

These values have been added to the indicator data files as part of the government's strategy to tackle inequalities in health outcomes as set out in the white paper *Healthy Lives, Healthy People: Our strategy for public health in England*[5]. This document outlines the government's strategy for helping people live longer, improving the health of the poorest and tackling the wider social determinants of health.

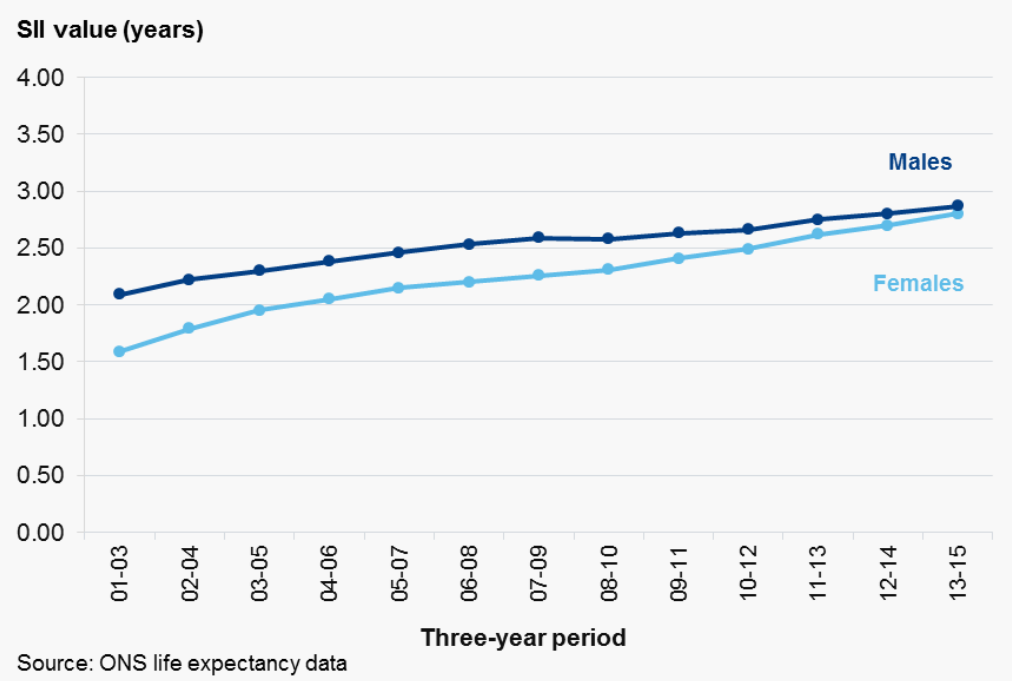
[5] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216096/dh_127424.pdf

Indicator 1b - National SII values

The SII values for females and males in 2013-15 were 2.80 and 2.87 years respectively. This means that life expectancy values vary by 2.80 and 2.87 years across the female and male deprivation distribution and therefore show on average, the extent to which life expectancy is associated with deprivation.

The following chart looks at the SII values over the time series.

Figure 9: SII in life expectancy at 75, by gender and three-year period (indicator 1b), 2001-03 to 2013-15



Source: ONS life expectancy data

The level of inequality in female life expectancy has been increasing

The chart suggests that the absolute level of inequality has been increasing for both genders, although none of the annual changes are statistically significant. Over the whole time series, there were increases of 76.1 per cent for females (significant) and 37.3 per cent for males (not significant). Please note that we plan to amend the way in which confidence intervals are calculated for the SII and RII. This is in order to produce confidence intervals which better reflect the uncertainty in the estimate of life expectancy. At present the confidence intervals are wide and it can, therefore, be difficult to interpret change.

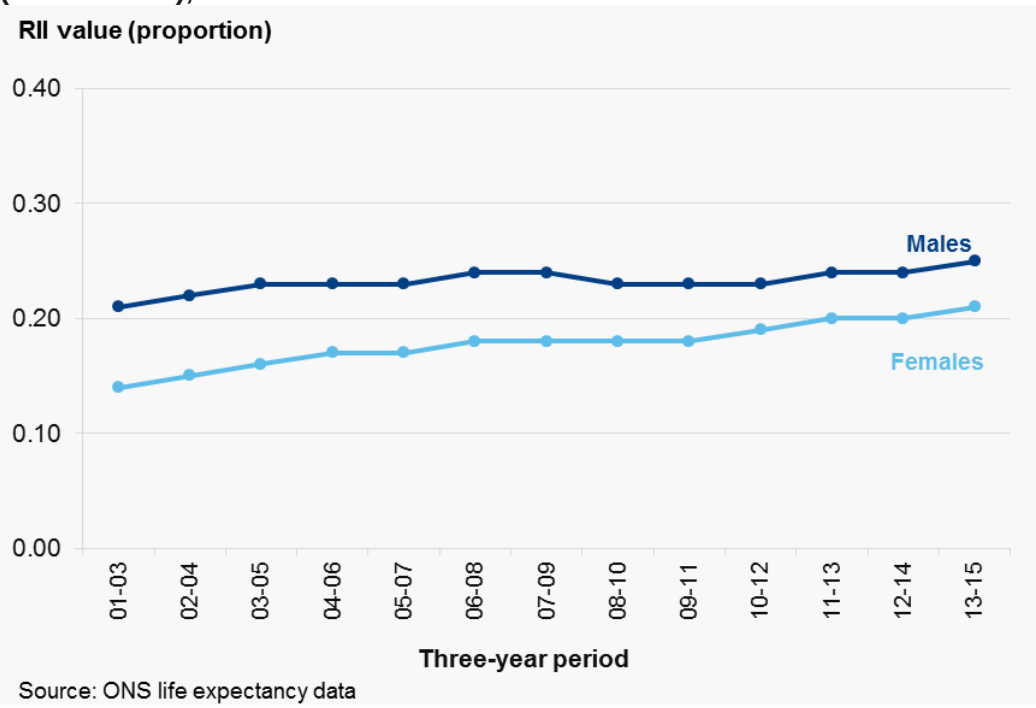
The chart also shows that the gap between male and female values has been decreasing and that there are now similar levels of inequality for both genders. This is due to absolute inequality increasing at different rates for each gender as described above, and not through any decrease in inequality overall.

Indicator 1b - National RII values

In 2013-15, the RII values for males and females were 0.21 and 0.25 respectively. This means that the level of absolute inequality is equal to 21 per cent (males) and 25 per cent (females) of the respective national indicator values.

The following chart looks at the RII values over the time series.

Figure 10: RII in life expectancy at 75, by gender and three-year period (indicator 1b), 2001-03 to 2013-15



Source: ONS life expectancy data

The chart suggests that the level of inequality relative to the national indicator value has increased over the time series for both males and females. However, only females have seen a significant increase over the time series (from 0.14 to 0.21). The male RII figures for 2001-03 (0.21) and 2013-15 (0.25) are statistically similar, therefore the apparent upward trend could be due to natural variation in the data or could be a true increase.

Indicator 1b - Changes to the previous data

ONS have updated their methodology for calculating three-year life expectancies in order to make the estimates more accurate. The '85 and over' age group has been replaced by an '85 to 89' group and a '90 and over' group. This has affected life expectancies at age 75 because they are calculated using the probability that someone will survive through the '75 to 79', '80 to 84' and '85 to 89' age groups.

ONS have published a back series to 2001-03 using the new methodology and this has been included in the NHS OF data file. Data prior to this have been removed from the file because data calculated

using the old and new method are not comparable. These older reporting periods will not be replaced.

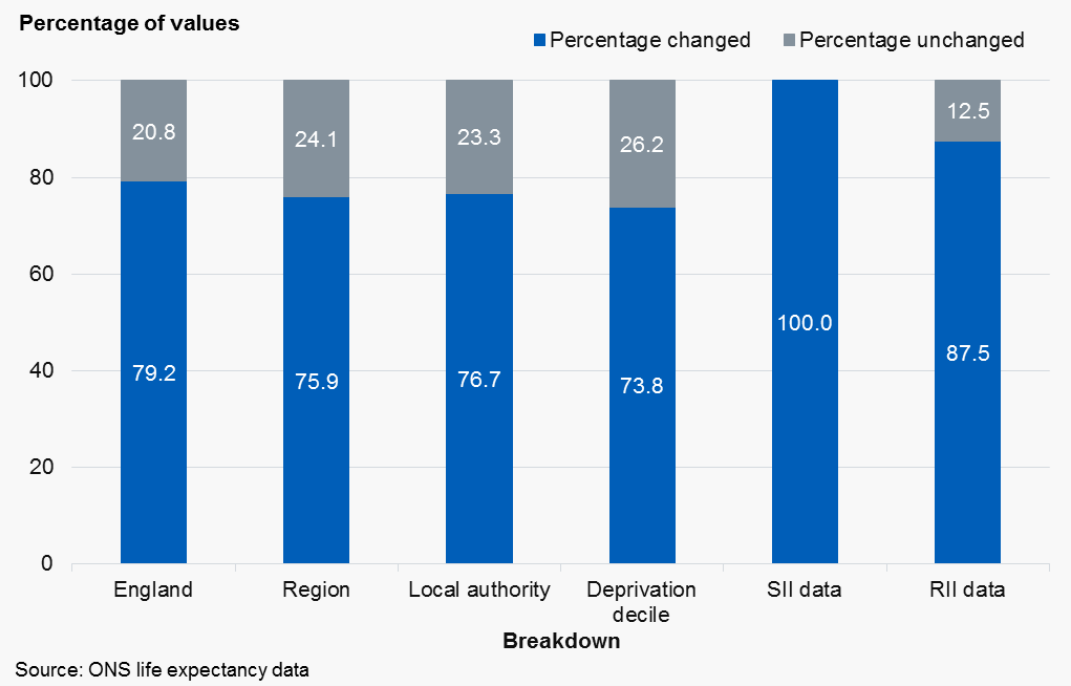
The following analysis compares the original data for three-year life expectancies with the revised data created using the new methodology to show the extent and scale of the changes.

There were 9,144 indicator values potentially affected by the methodology change, which cover all breakdowns and all years of data in the February data file apart from the new data for 2013-15. Only indicator values are included in this analysis in order to simplify the results. Confidence intervals were also affected but follow the same pattern as the indicator values and have therefore not been included.

Indicator 1b - Extent of changes to the data

Of the values potentially affected, 76.7 per cent have been revised in the February 2017 data file. The below chart shows that the extent of the changes varied between breakdowns; from 73.8 per cent of the deprivation indicator values to 100.0 per cent of the SII indicator values. The vast majority of these changes were negative, i.e. most of the new values have decreased compared to the old value.

Figure 11: Percentage of life expectancy indicator values updated in February 2017 (indicator 1b)



Source: ONS life expectancy data

Indicator 1b - Scale of changes to the data

The following table shows the greatest increases and decreases between the old and new indicator values for each breakdown.

Figure 12: Scale of changes (years) to life expectancy indicator values in February 2017 (indicator 1b)

Breakdown	England	Region	Local authority	Deprivation decile	SII data	RII data
Greatest increase	No increases	0.1	0.3	0.1	0.01	0.01
Greatest decrease	-0.3	-0.3	-0.9	-0.5	-0.35	-0.03

The table shows the scale of the changes was very small for all breakdowns. The smallest changes were seen at the higher geographies such as England and regional level. Due to smaller populations, the biggest differences were seen at local authority level, where new values were up to 0.9 years lower than the old values. This level of change was not common among the local authority level records; only two local authorities saw a 0.9 year decrease.

Domain 2 - Overview

Domain 2 relates to enhancing the quality of life for people with long-term conditions. The NHS should be supporting people to be as independent and healthy as possible if they live with a long-term condition such as heart disease, asthma or depression, preventing complications and the need to go into hospital. If they do need to be treated in hospital, the NHS should work with social care and other services to ensure that people are supported to leave hospital and recover in the community.

Indicators 2.3.i and 2.3.ii - Overview

Indicator 2.3.i presents the indirectly standardised rate (ISR) per 100,000 population of unplanned hospitalisations for chronic ambulatory care sensitive (ACS) conditions for people of all ages.

An unplanned, or emergency, hospitalisation is a type of hospital admission that is unpredictable and at short notice because of a clinical need.

The ACS conditions covered in indicator 2.3.i are those where effective community care and case-management can help prevent the need for hospital admission.

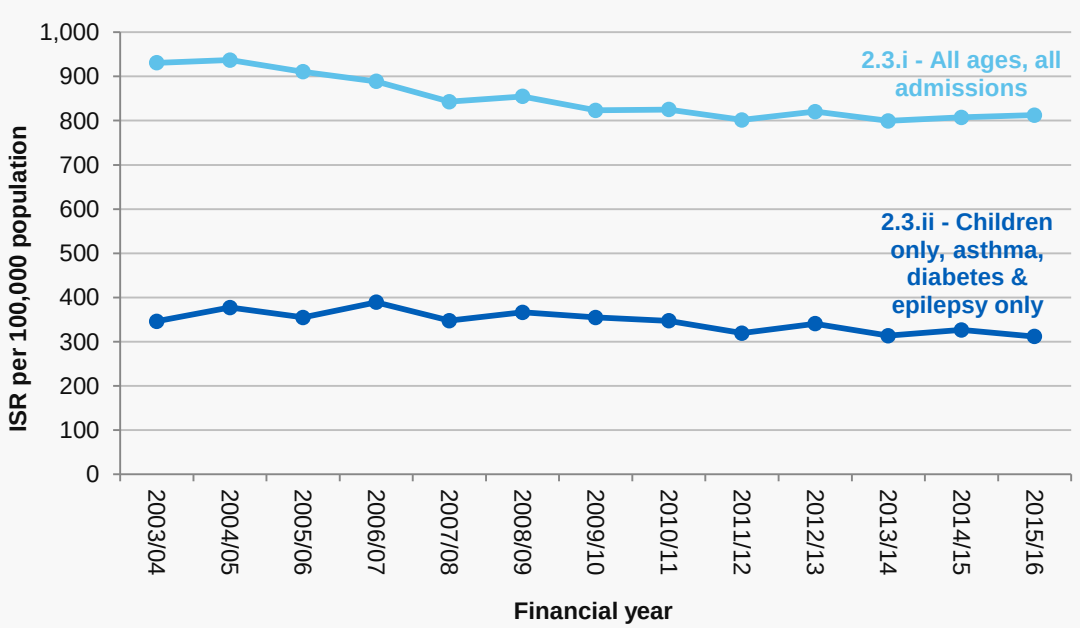
Providing effective ambulatory care for these conditions will lead to better patient care and case management, and a reduction in avoidable emergency admissions, which are costly and expose patients to otherwise avoidable clinical risks such as health-care acquired infections.

Indicator 2.3.ii presents the ISR per 100,000 population of unplanned hospitalisations for just asthma, insulin-dependent diabetes and epilepsy and only for people aged under 19. These conditions were selected due to the volume of admissions they are associated with. Of the unplanned admissions included in indicator 2.3.i for those aged under 19, 96.1 per cent were for one of these three conditions in 2015/16.

Indicators 2.3.i and 2.3.ii - National indicator data

Overall, both indicators have seen significant falls in the unplanned hospitalisation rate in the past 10 years, an 8.6 per cent fall for indicator 2.3i and a 19.9 per cent fall for indicator 2.3.ii as shown in the following chart.

Figure 13: Rate of unplanned hospitalisations for chronic ambulatory care sensitive conditions (indicators 2.3.i and 2.3.ii), 2003/04 to 2015/16



Sources: Hospital Episode Statistics (HES), ONS mid-year population estimates

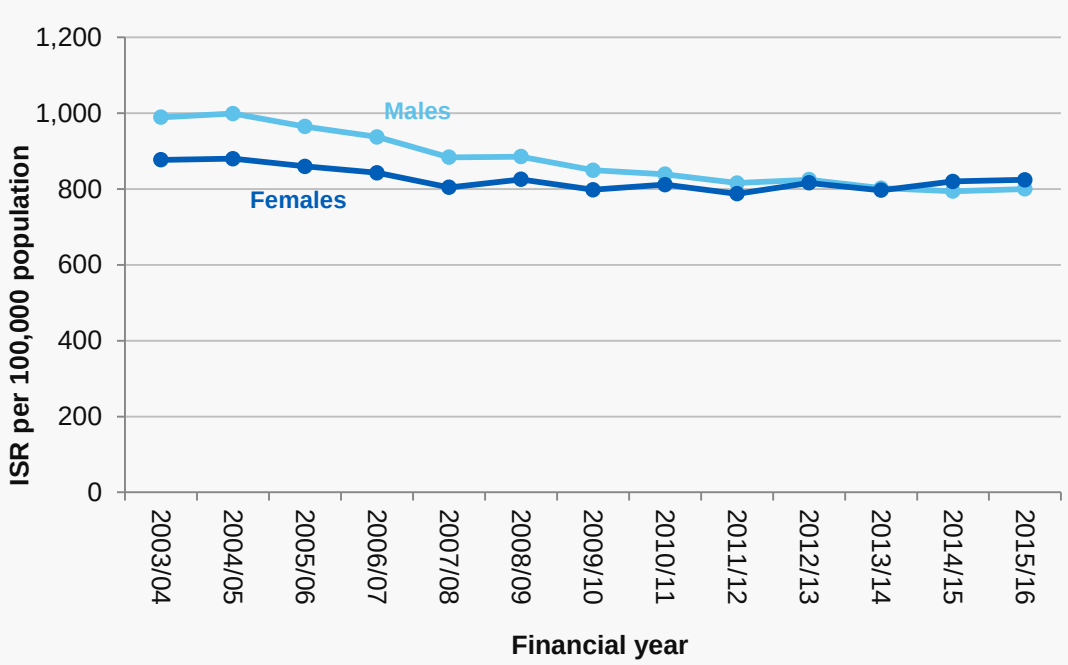
Although unplanned hospitalisations for asthma, insulin-dependent diabetes and epilepsy in young people aged under 19 (indicator 2.3.ii) has seen some fluctuation year on year there has been a significant fall over the last five years (a 2.3 per cent fall) and a significant fall over the last year (a 4.5 per cent fall).

The unplanned hospitalisation rate for all ACS conditions for all age groups (indicator 2.3.i) showed a general downward trend up to 2011/12 however since this date there has been an increase in the hospitalisation rate with a significant increase both over the last five years (a 1.3 per cent increase) and over the last year (a 0.6 per cent increase).

Indicators 2.3.i and 2.3.ii - Gender level data

Up until 2012/13, the overall unplanned hospitalisation rate for indicator 2.3.i was significantly higher for males than females, however over the last two years this has reversed and the hospitalisation rate for females is now significantly higher than for males. Figure 14 shows this in more detail.

Figure 14: Rate of unplanned hospitalisations for chronic ambulatory care sensitive conditions for all ages (indicator 2.3.i) by gender, 2003/04 to 2015/16

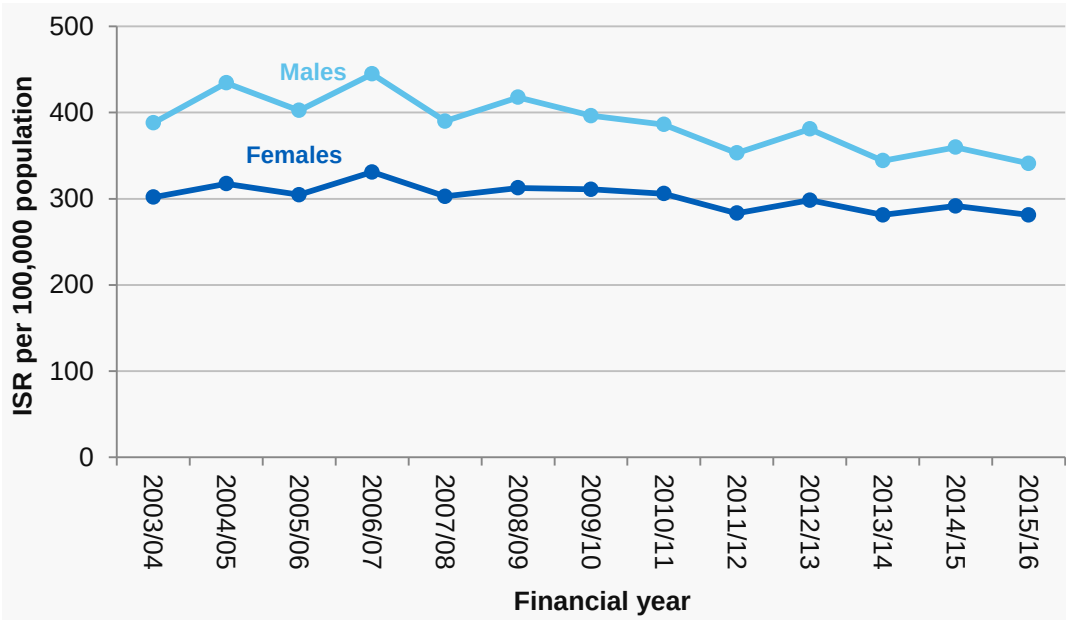


Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

The unplanned hospitalisation rate for males has shown a general downward trend from the start of the time series. In contrast, the female rate has fluctuated in recent years and this has allowed the male rate to fall below the female rate. When comparing the unplanned hospitalisation rate from the start of the time series in 2003/04 to the latest year's figure for females the rate has fallen from 877.2 to 824.4 admissions per 100,000 population (a fall of 6.0 per cent). In the same period, the rate for males fell from 989.4 to 800.3 (a fall of 19.1 per cent).

The following chart looks at unplanned hospitalisation rates for children with asthma, diabetes and epilepsy by gender.

Figure 15: Rate of unplanned hospitalisations for asthma, diabetes and epilepsy for under 19s (indicator 2.3.ii) by gender, 2003/04 to 2015/16.



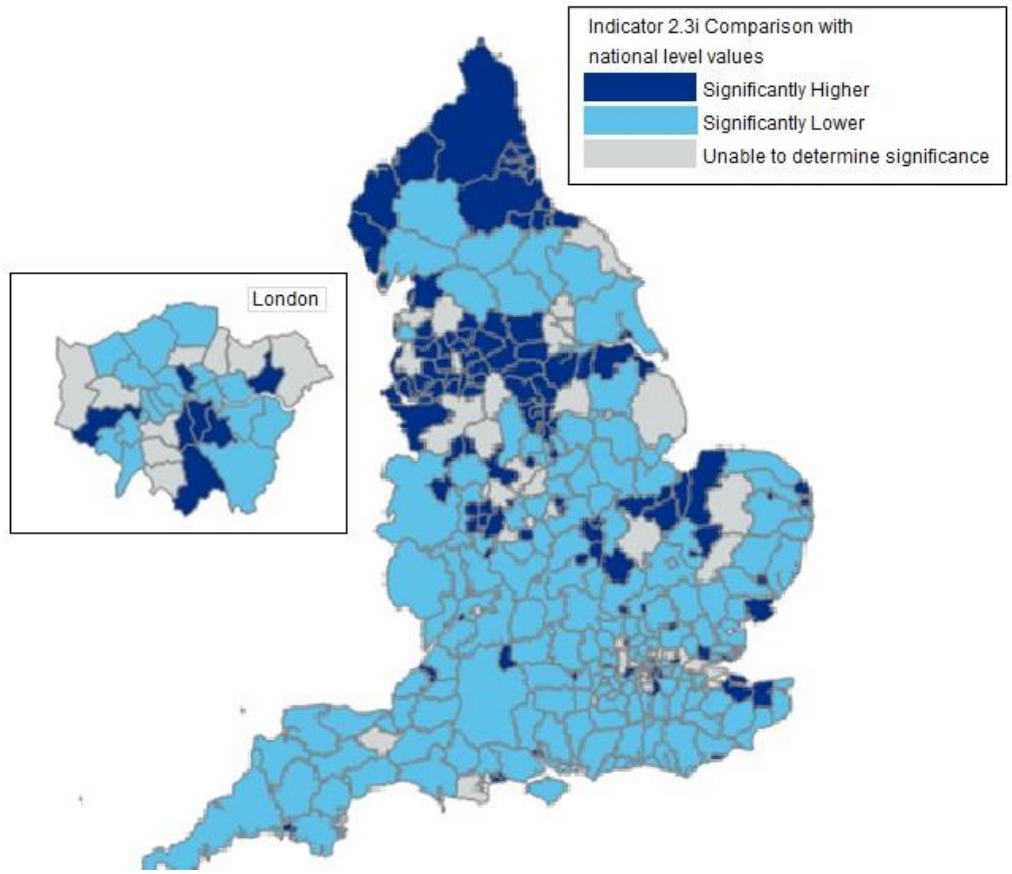
Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

Indicator 2.3.ii shows that for young people under 19 with one of the three conditions previously stated, males have significantly higher rates than females in all years of the time series with both genders seeing similar trends to the national rate.

Indicators 2.3.i and 2.3.ii - Geographical data

Figure 16 compares unplanned hospitalisation rates at lower tier local authority level to the national rate for 2015/16.

Figure 16: Comparison of unplanned hospitalisation rates for chronic ambulatory care sensitive conditions for local authorities to the national rate (indicator 2.3.i), 2015/16



Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

As rates are indirectly standardised they cannot be compared with each other at geographical level and must be compared with the national rate only. This classes local authorities as either significantly higher or lower than the national rate or “unable to determine significance” when a local authority’s confidence interval overlaps with the national confidence interval.

114 local authorities had significantly higher rates while 170 local authorities had significantly lower rates. The remaining 42 local authorities had a rate that was statistically similar to the national rate. Large areas of local authorities with significantly higher rates than the national average can be seen across the North East, North West and Yorkshire and the Humber. These regions along with West Midlands and East Midlands are significantly higher than the national rate, with all other regions being significantly lower than the national rate.

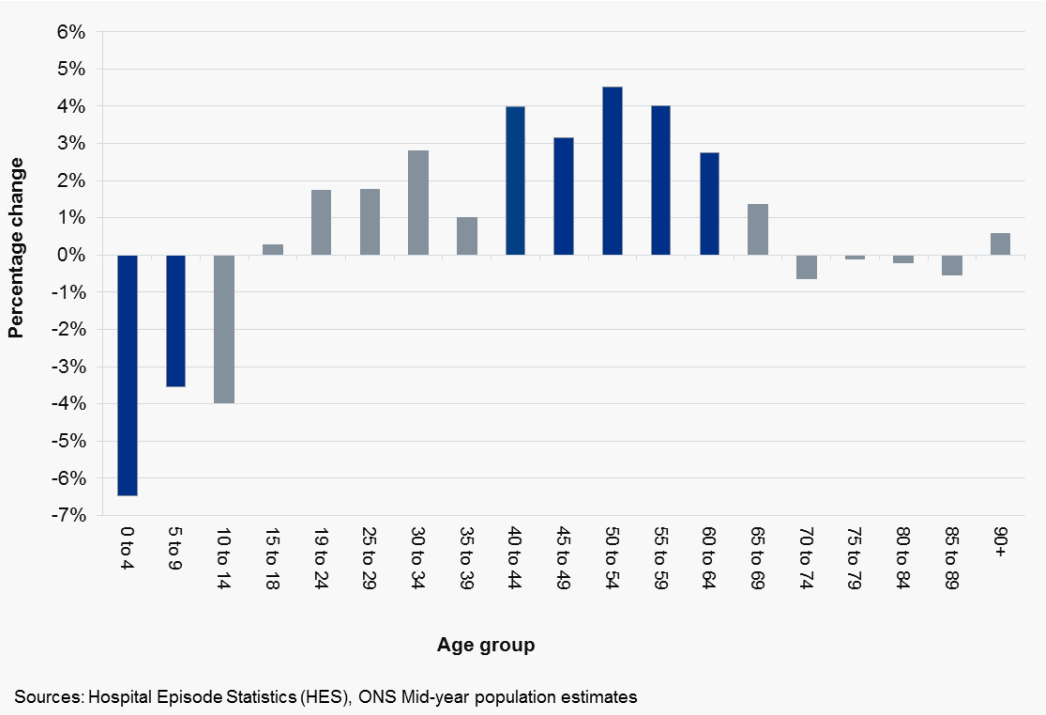
For indicator 2.3ii, the North West, North East and West Midlands regions are all significantly higher than the national rate with all other regions being significantly lower than the national rate.

For unplanned hospitalisation for all conditions that should not require hospital admission (indicator 2.3i) the most deprived areas have a significantly higher rate than the national rate and the least deprived areas have a significantly lower rate than the national rate. The unplanned hospitalisation rate in most deprived areas is 86.1 per cent higher than the national rate and the rate in least deprived areas is 40.3 per cent lower than the national rate.

Indicators 2.3.i and 2.3.ii - Age data

Figure 17 shows how the age-specific rates have changed between 2014/15 and 2015/16 for indicator 2.3.i. While the oldest age groups have the highest rates of admissions overall, the greatest changes occur in younger patients.

Figure 17: Percentage change in the rate of unplanned hospitalisations for chronic ambulatory care sensitive conditions (indicator 2.3.i) by age group, between 2014/15 and 2015/16



Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

The national value for indicator 2.3.i has increased slightly, but significantly (by 0.6 per cent), between 2014/15 and 2015/16. However, there has been more variation in the indicator values by age group.

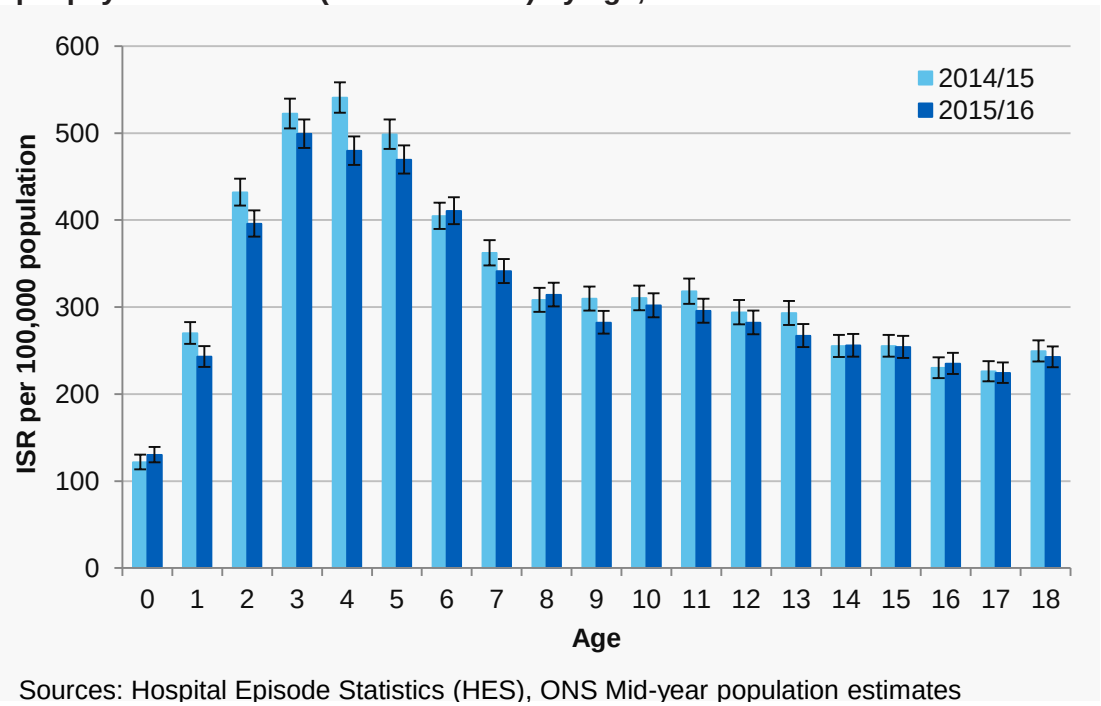
There were significant decreases for the 0 to 4 and 5 to 9 year age groups of -6.5 and -3.5 per cent respectively. There were significant increases for all age groups between 40 to 44 and 60 to 64 years inclusive. The greatest increase was for the 50 to 54 year age group which saw a 4.5 per cent change.

While volatility in admission rates for younger patients is expected, given the relatively smaller numbers of admissions for these patients,

the reduction in the admission rate for the very youngest patients is part of a longer-term trend.

The following chart looks at the rate of unplanned hospitalisation by age group for single year of age for children with asthma, diabetes and epilepsy.

Figure 18: Rate of unplanned hospitalisations for asthma, diabetes and epilepsy for under 19s (indicator 2.3.ii) by age, 2014/15 and 2015/16



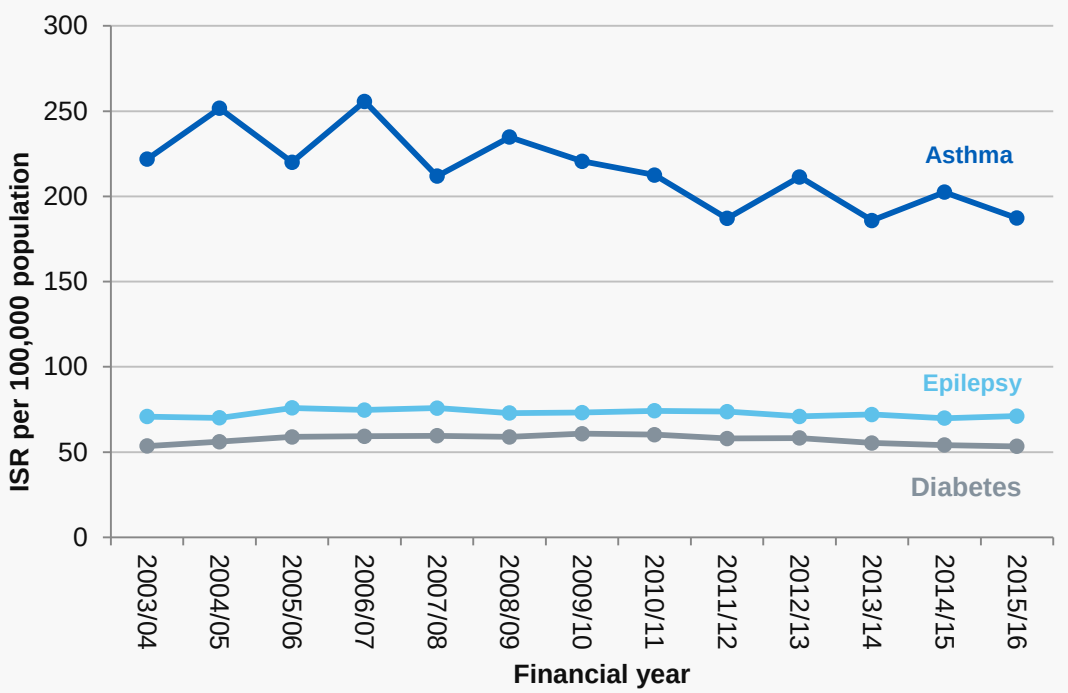
Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

Figure 18 shows that, similar to 2014/15, children aged 3, 4 and 5 in 2015/16 had significantly higher rates of unplanned hospitalisation for the three conditions than for any other ages. None of the ages have shown a significant increase since last year, however there have been significant decreases for those aged 1, 2, 4 and 9.

Indicator 2.3.ii - Condition data

Figure 19 shows how the unplanned hospitalisation rates differed by condition for under 19s.

Figure 19: Rate of unplanned hospitalisations for asthma, diabetes and epilepsy for under 19s (indicator 2.3.ii) by condition, 2003/04 to 2015/16



Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

It can clearly be seen that asthma has the highest rate of unplanned hospitalisation for under 19s. The rate is seen to fluctuate year on year, with a significant reduction over the time series. In contrast, the rates for epilepsy and diabetes show no significant change over the time series.

Domain 3 - Overview

Domain 3 of the NHS Outcomes Framework reflects the importance of helping people to recover from episodes of ill health or following injury. There are two key objectives of this domain: preventing conditions from becoming more serious (wherever possible), and helping people to recover effectively.

Indicators 3a and 3.2 - Overview

Indicator 3a is an overarching indicator for domain 3 and measures the ISR of emergency admissions for acute conditions that should not usually require hospital admission. An emergency admission in this case has the same definition as an “unplanned hospitalisation” in domain 2 which is “a type of hospital admission that is unpredictable and at short notice because of a clinical need.” The same filters are used on the Hospital Episode Statistics (HES) data to define the type of admission but a different list of conditions is used.

Indicator 3.2 measures the ISR of emergency admissions for lower respiratory tract infections (LRTIs) in children. These infections are important because they lead to a high number of emergency bed days.

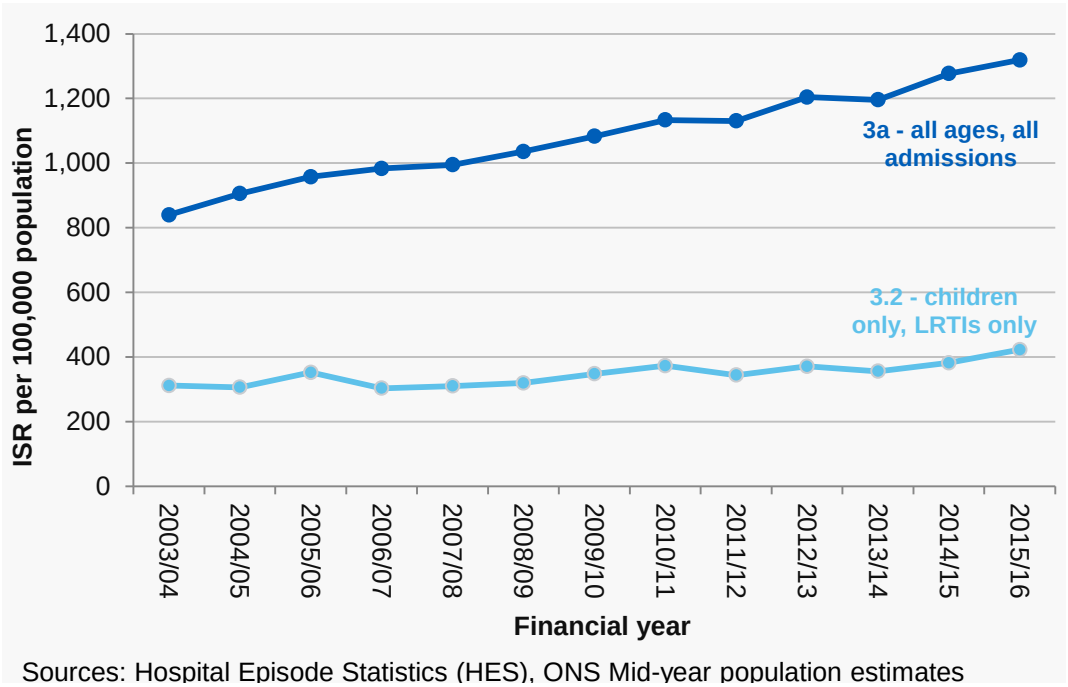
Where an individual has been admitted for one of these conditions, it may indicate that they have deteriorated more than should have been allowed by the adequate provision of healthcare in primary care or as an outpatient in hospital.

It should be noted that while many of the LRTIs are considered conditions that should not usually require hospital admission, not all of them are included in this category so indicator 3.2 is not a complete subset of indicator 3a but is associated to it.

Indicators 3a and 3.2 - National indicator data

Figure 20 looks at the national trend for these indicators over the course of the time series

Figure 20: Rate of emergency admissions for acute conditions that should not usually require hospital admission, and for children with LRTIs (indicators 3a and 3.2), 2003/04 to 2015/16



Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

The rate of admissions for children with LRTIs increased by

10.6%

from 2014/15 to 2015/16

For emergency admissions for all conditions that should not require hospital admission (indicator 3a) the rate has shown a general increase year on year since the start of the time series. The indicator value has increased from 839.7 admissions per 100,000 population in 2003/04 to 1,318.9 in 2015/16 (a significant increase of 57.1 per cent).

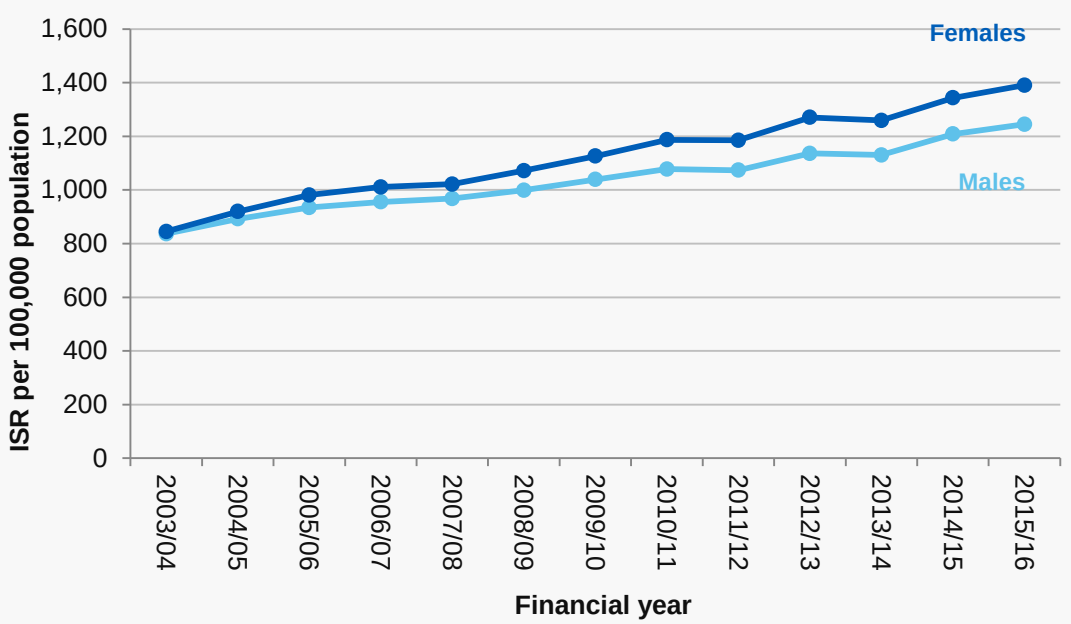
The rate for children with LRTIs (indicator 3.2) has fluctuated year on year, however has shown a significant increase over the last two years. Since the start of the time series in 2003/04 indicator 3.2 has increased from 311.9 admissions per 100,000 population to 422.7 (a significant increase of 35.5 per cent).

Both indicators have shown a significant increase over the last year. Indicator 3a has increased from 1,277.1 to 1,318.9 (a 3.3 per cent increase) and indicator 3.2 has increased from 382.2 to 422.7 (a 10.6 per cent increase).

Indicators 3a and 3.2 - Age and gender data

Figure 21 shows how the rate varies by gender throughout the time series.

Figure 21: Rate of emergency admissions for acute conditions that should not usually require hospital admission (indicator 3a) by gender, 2003/04 to 2015/16

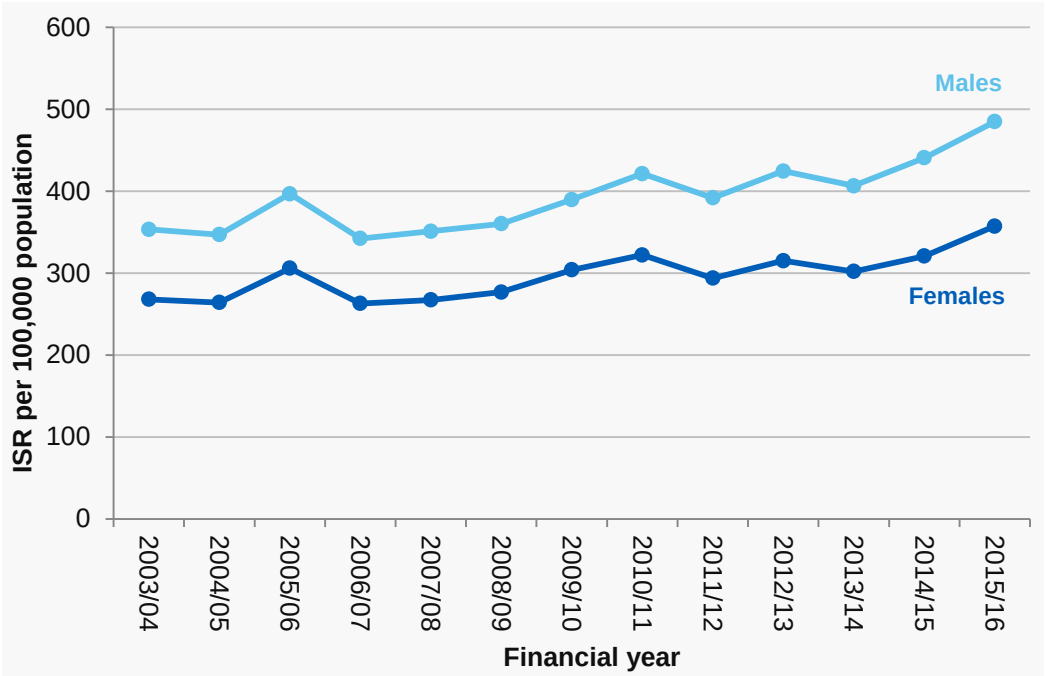


Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

For the rate of emergency admissions for all conditions that should not require hospital admission (indicator 3a) the rate of admissions per 100,000 population has been higher for females than males throughout the time series with the gap increasing over recent years.

Figure 22 shows how the emergency admission rates vary by gender for children with LRTIs throughout the time series.

Figure 22: Rate of emergency admissions for children with LRTIs (indicator 3.2) by gender, 2003/04 to 2015/16

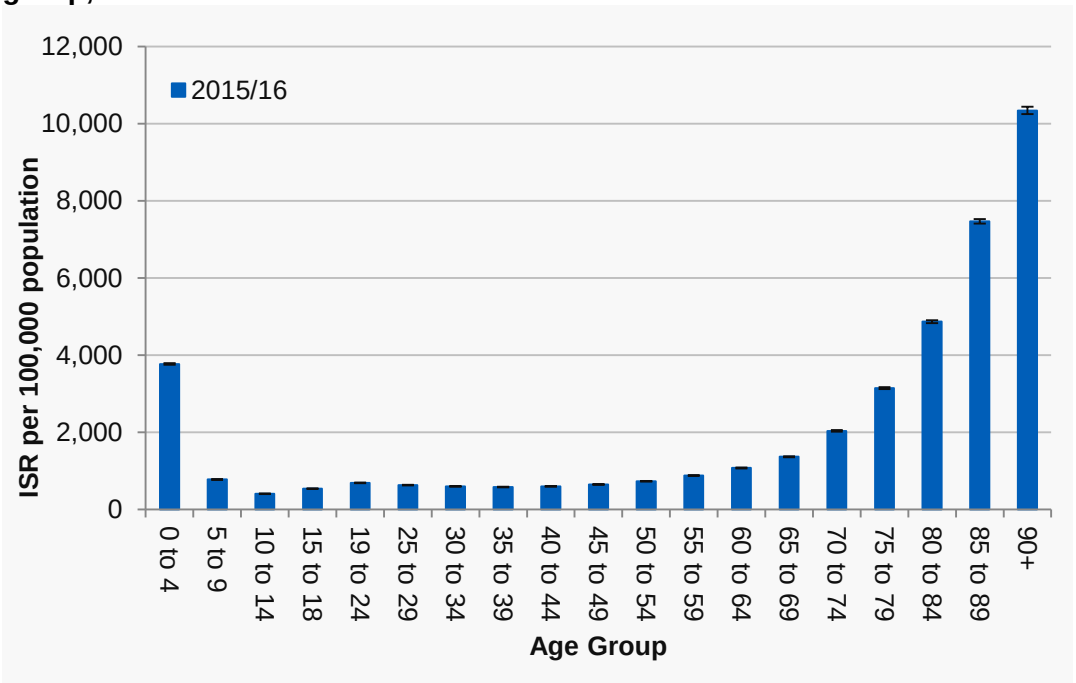


Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

The emergency admission rate for children with LRTIs per 100,000 population (indicator 3.2) has been higher for males than females throughout the time series which is the reverse of indicator 3a.

Figure 23 shows how the rate varies by age for the overall emergency admission rate.

Figure 23: Rate of emergency admissions for acute conditions that should not usually require hospital admission (indicator 3a) by age group, 2015/16



Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

It can be seen that those aged 0 to 4 years have a significantly higher rate than all other age groups between 5 and 79 years. Other than this a similar trend to indicator 2.3.i is seen with emergency admission rates significantly increasing in each age group from 45 to 49 onwards.

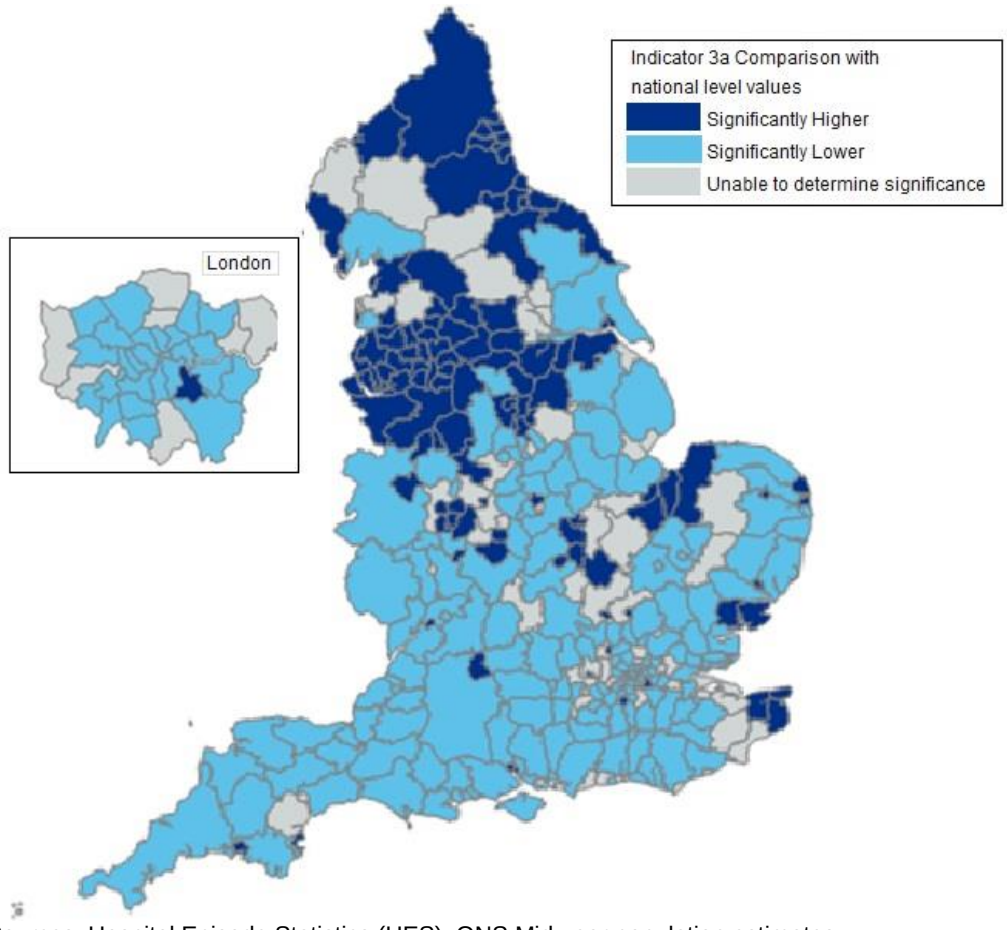
The emergency admission rate for children with LRTIs (indicator 3.2) is significantly higher for those aged under 1 year than for all other ages between 1 and 18 years. The under 1 year age group had a rate of 5,492.6 emergency admissions for LRTIs per 100,000 population in 2015/16 which is a significant increase of 10.4 per cent compared to the previous year.

Those aged under 1 year accounted for 73.2 per cent of the total emergency admissions for children with LTRI. The high admission rate for this age group may be part of the reason for the relatively high rate for this group overall (indicator 3a) although it should be noted again that 3.2 is not a complete subset of 3a.

Indicators 3a and 3.2 - Geographical data

Figure 24 compares unplanned hospitalisation rates at lower tier local authority level to the national rate for 2015/16.

Figure 24: Comparison of emergency admission rates for acute conditions which should not usually require hospital admission for local authorities to the national rate (indicator 3a), 2015/16



Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

As with indicator 2.3.i, rates are indirectly standardised and cannot be compared with each other at geographical level. They must be compared with the national rate only. Local authorities are classed as either significantly higher or lower than the national rate or "unable to determine significance" when a local authority's confidence interval overlaps with the national confidence interval.

106 local authorities had significantly higher rates while 166 local authorities had significantly lower rates. The remaining 54 local authorities had a rate that was statistically similar to the national rate. As with indicator 2.3.i, large areas of local authorities with significantly higher rates than the national average can be seen across the North East, North West and Yorkshire and the Humber. These regions along with West Midlands are significantly higher than the national rate, with all other regions being significantly lower than the national rate, the exception is East Midlands which is similar to the national rate.

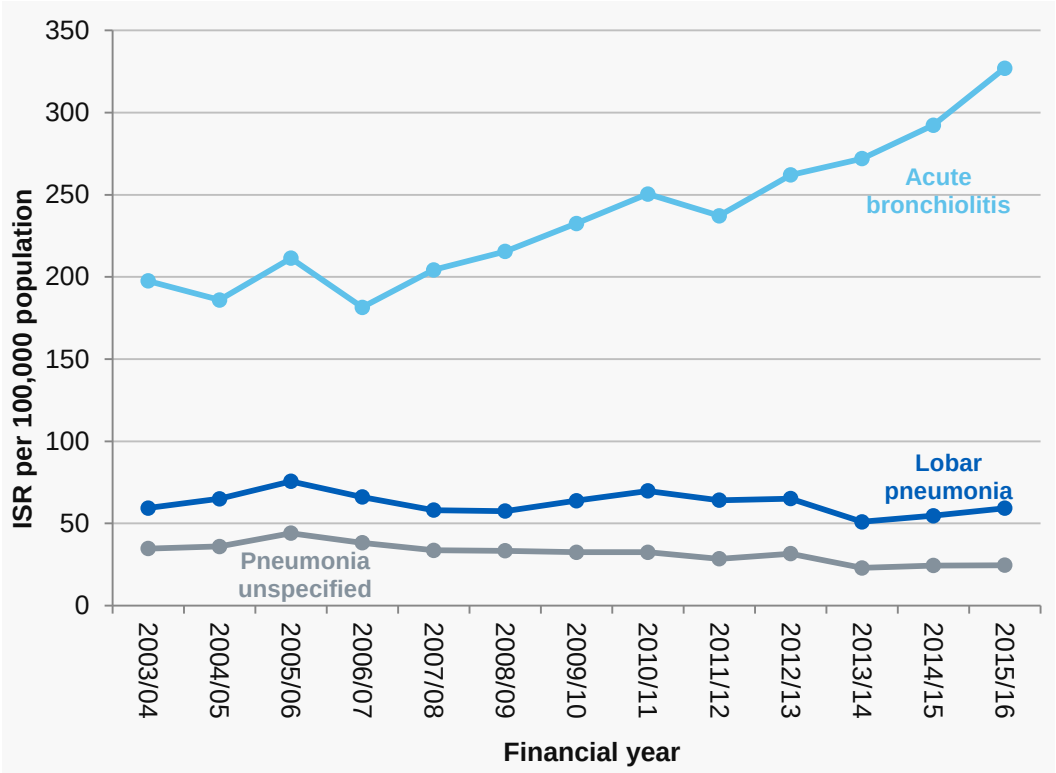
For indicator 3.2 the North West, North East, West Midlands and South West regions are all significantly higher than the national rate with all other regions being significantly lower than the national rate, the exceptions being East Midlands and Yorkshire and the Humber which are similar to the national rate.

For the rate of emergency admissions for all conditions that should not require hospital admission (indicator 3a) the most deprived areas have a significantly higher rate than the national rate and the least deprived areas a significantly lower rate. The rate of emergency admissions in the most deprived areas is 47.1 per cent higher than the national average and in the least deprived areas it is 28.5 per cent lower than the national average.

Indicator 3.2 - Condition data

The conditions with the highest emergency admission rates for children with LRTI (indicator 3.2) were acute bronchiolitis, lobar pneumonia and pneumonia unspecified. These conditions had significantly higher rates than all other conditions in all years of the time series. Figure 25 looks at the rates for these conditions over the course of the time series.

Figure 25: Rate of emergency admissions for children with LRTIs (indicator 3.2) by condition, 2003/04 to 2015/16



Sources: Hospital Episode Statistics (HES), ONS mid-year population estimates

The admission rate for bronchiolitis increased by 11.8% from 2014/15 to 2015/16

Acute bronchiolitis has the highest rate of emergency admissions of all LRTIs in children and the rate has increased significantly in the 10 year period from 2006/07 to 2015/16 having risen from 181.5 admissions per 100,000 population to 327.0 (an 80.2 per cent increase).

Bronchiolitis is a common condition that usually affects children under the age of two[6]. In the majority of cases the child can be cared for at home, but sometimes more serious symptoms such as breathing difficulties can develop, for which hospital treatment is required. Lobar pneumonia and pneumonia unspecified have both seen a significant fall, with some fluctuations, in the rate of admission over the same 10 year period.

Indicator 3.7.ii - Overview

Indicator 3.7.ii - measures the rate of hospital inpatient periods of care where a child age 10 years or under had one or more teeth extracted, due to tooth decay.

This indicator captures those who have most likely been missed in primary care dentistry as the tooth decay is severe enough that they need hospital treatment, therefore it is likely that they have not regularly attended the dentist. It is a measure of a poor outcome for those not receiving care from NHS primary dental services - if they had gone to

[6] http://www.nhs.uk/Conditions/bronchiolitis/Pages/introduction.aspx

the dentist their tooth decay should have been picked up earlier and not reached the stage of extraction. The treatment occurring in secondary care implies the children are having their teeth extracted under general anaesthetic and means that tooth decay has reached extreme levels.

Indicator 3.7.ii - National and gender level data

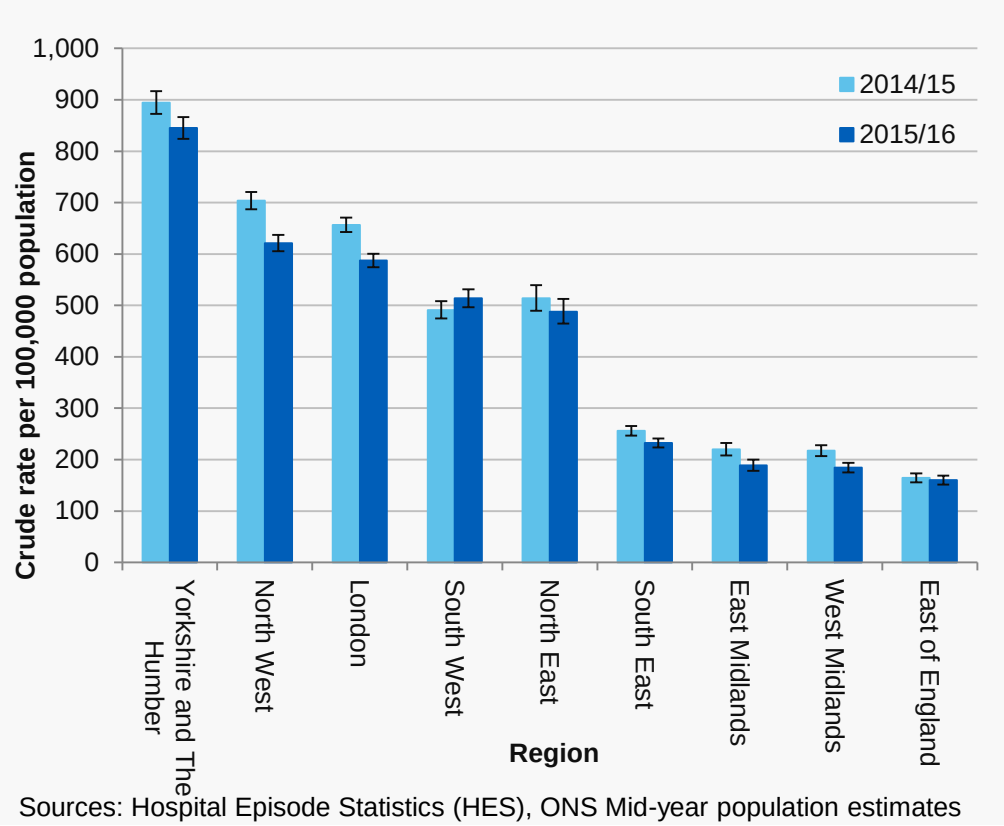
The rate of hospital inpatient periods of care for tooth extractions due to decay in children aged 10 years and under in 2015/16 was 425.0 per 100,000 population (31,502 episodes of care). This is significantly lower than all previous years since the start of the time series in 2011/12. The highest rate in the time series was seen in 2014/15, 462.2 per 100,000, which is 8.8 percent higher than this year.

The rates for males and females 10 years and under follow a similar pattern as the national figure with both showing a significant fall this year. For all years of the time series the male rate is higher than for females. In 2015/16 the male rate is 8.2 per cent higher than the female rate.

Indicator 3.7.ii - Geographical data

Figure 26 shows the variation in rates by region. The error bars on the chart represent 95 per cent confidence intervals for the crude rate.

Figure 26: Rate of hospital inpatient periods of care for tooth extractions due to decay in children aged 10 years and under (indicator 3.7.ii) by region, 2014/15 and 2015/16

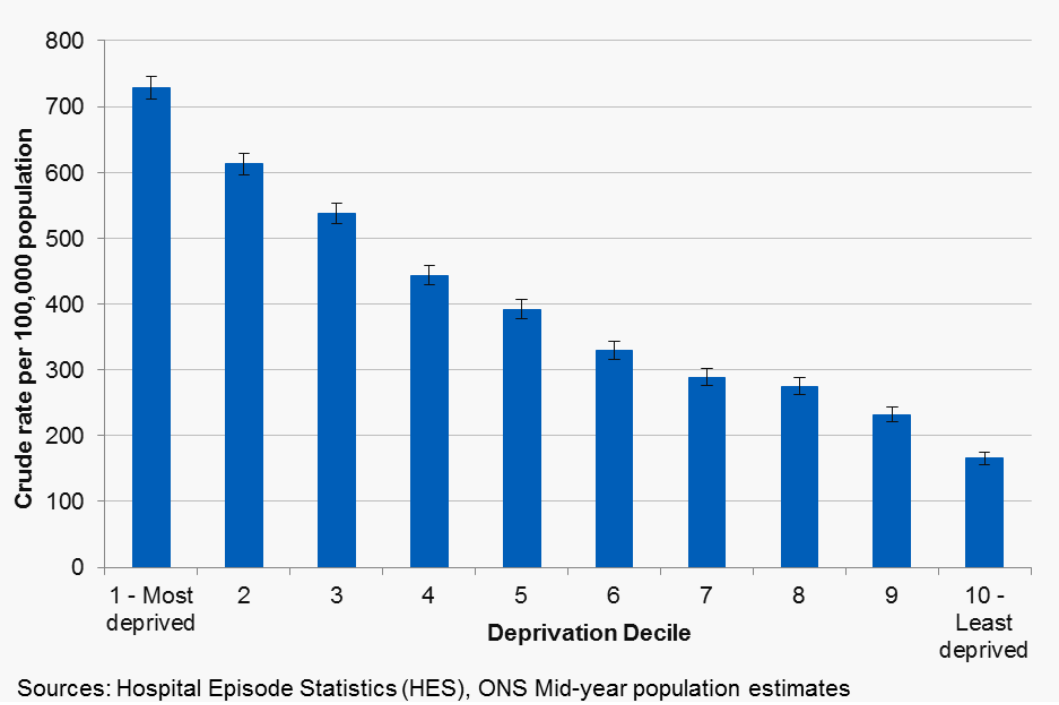


Sources: Hospital Episode Statistics (HES), ONS Mid-year population estimates

Similar to 2014/15 there was a wide regional variation in the level of hospitalisation for tooth extractions in 2015/16. The rate in Yorkshire and the Humber (845.1 per 100,000 population, 6,120 episodes) was more than five times that in the East of England (160.1 per 100,000 population, 1,315 episodes). The rate for most regions has fallen significantly in 2015/16 when compared to the previous year; the exceptions are East of England, North East and South West which are statistically similar.

The regional variation reported here mirrors the results of the 'Oral health survey of five year old children, 2015'[7], which saw relatively higher prevalence of five year old children who had experienced tooth extraction due to decay in the north of England and London.

Figure 27: Rate of hospital inpatient periods of care for tooth extractions due to decay in children aged 10 years and under (indicator 3.7.ii) by deprivation decile, 2015/16



Nationally, there is a strong correlation between area deprivation and the rate of hospitalisation for tooth extraction. As deprivation increases so does the rate of tooth extraction. The rate in the most deprived decile is over four times that in the least deprived decile (729.1 compared to 165.3 per 100,000 population).

7 http://www.nwph.net/dentalhealth/14_15_5yearold/14_15_16/DPHEP%20for%20England%20OH%20Survey%205yr%202015%20Report%20FINAL%20Gateway%20approved.pdf

Possible explanatory factors that contribute to the variation seen include diet, dental care in the home, water supply fluoridation[8,9] and the accessibility of NHS primary dental services.

Domain 5 - Overview

This domain focusses on treating and caring for people in a safe environment and protecting them from avoidable harm. It has been included in the framework because it is recognised that patient safety is of paramount importance in terms of quality of care and delivering better health outcomes.

Indicator 5.1 - Overview

Indicator 5.1 measures the number of adults (19 years or over) who were admitted to hospital for any reason and subsequently died up to 90 days post discharge with venous thromboembolism (VTE) being one of the conditions leading to, or directly causing death. This is measured per 100,000 adult hospital admissions.

This indicator is an improvement area in domain 5 and was selected as a particular safety issue which needed attention.

VTE is a collective term for deep vein thrombosis (DVT – a blood clot that forms in the veins of the leg) and pulmonary embolism (PE – a blood clot in the lungs). It affects approximately 1 in every 1,000 of the UK population and is a significant cause of mortality, long term disability and chronic ill-health problems[10].

Around half of all cases of VTE are associated with hospitalisation, with many events occurring up to 90 days after admission. Global estimates of the burden of disease vary but the total cost to the UK of managing VTE is estimated at £640 million.

NHS England considers VTE to be a clinical priority for the NHS. The National VTE Prevention Programme has been set up in order to help reduce avoidable harm and death from hospital-associated thrombosis. The programme involves assessing patients for the risk of developing VTE so that appropriate preventative treatment can be given to improve health outcomes. Since June 2010 the rate of patients receiving a VTE assessment has gone from 45 to 96 per cent.

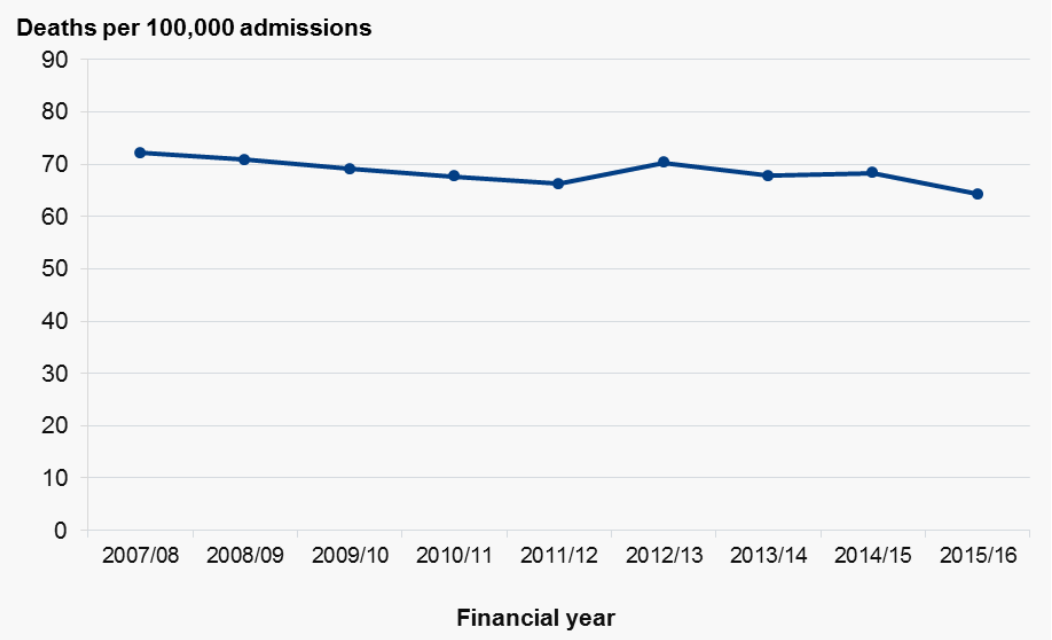
The codes used to select deaths from the mortality database can be found in the domain 5 specification document on the indicator portal (link on page 4).

[8] http://www.nhs.uk/news/2015/08August/Pages/Water-fluoridation-a-safe-way-of-stopping-tooth-decay.aspx
[9] http://onlinelibrary.wiley.com/wol1/doi/10.1111/cdoe.12180/full
[10] https://www.england.nhs.uk/patientsafety/venous-thromb/

Indicator 5.1 - National indicator values

The following chart shows the national values for indicator 5.1 over the time series.

Figure 28: Deaths from VTE related events within 90 days post discharge from hospital (indicator 5.1), 2007/08 to 2015/16



Source: NHS Digital HES and PCMD databases

The chart suggests a slowly improving trend for this indicator, although it can be subject to fluctuations between individual years. The latest indicator value was 64.3 deaths per 100,000 hospital admissions in 2015/16, which equates to a decrease of 5.9 per cent compared to the previous year. Over the whole time series, the indicator has decreased by 10.8 per cent. Confidence intervals are not currently available to test the significance of these findings.

Appendix 1 - Release details

The below table shows the time periods and disaggregations which have been added or updated in the indicator data files for this release.

Title	Source	Updates
1.1 Under 75 mortality rate from cardiovascular disease	Primary Care Mortality Database (PCMD) managed by NHS Digital.	New data for 2015: Deprivation deciles
1.2 Under 75 mortality rate from respiratory disease	Primary Care Mortality Database (PCMD) managed by NHS Digital.	New data for 2015: Deprivation deciles
1.3 Under 75 mortality rate from liver disease	Primary Care Mortality Database (PCMD) managed by NHS Digital.	New data for 2015: Deprivation deciles
1.4 Under 75 mortality rate from cancer	Primary Care Mortality Database (PCMD) managed by NHS Digital.	New data for 2015: Deprivation deciles
1.4.i One-year survival from all cancers	Index of cancer survival for Clinical Commissioning Groups in England from ONS	New data for 2015 follow-ups for England and by age groups. Some data for previous years may have been revised since data are taken from a live database
1.4.ii Five-year survival from all cancers	Index of cancer survival for Clinical Commissioning Groups in England from ONS	New data for 2015 follow-ups for England and by age groups. Some data for previous years may have been revised since data are taken from a live database

Title	Source	Updates
1b Life expectancy at 75	Health state life expectancies, UK (three-year figures) and Expectation of Life, Principal Projection, England (one-year figures) both from ONS	New three-year data for 2013-15 and revised data for 2001-03 to 2012-14 for: England Regions Local authorities Slope index of inequality (SII) Relative index of inequality (RII) New one-year data for 2015 (projected figures) for: England
2.2 Employment of people with long-term conditions	Labour Force Survey (LFS) from ONS	New data for Q3 2016 (July to September): England Gender Age group Ethnicity Region Unitary authority/local area NS-SEC category Religion
2.3.i Unplanned hospitalisation for chronic ambulatory care sensitive conditions	Hospital Episode Statistics (HES) database, managed by NHS Digital and mid-year population estimates from ONS	New data for 2015/16 for: England Gender Age Lower tier local authority Upper tier local authority Region Deprivation decile Condition
2.3.ii Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s	Hospital Episode Statistics (HES) database, managed by NHS Digital and mid-year population estimates from ONS	New data for 2015/16 for: England Gender Age Lower tier local authority Upper tier local authority Region Deprivation decile Condition

Title	Source	Updates
2.5.i Employment of people with mental illness	Labour Force Survey (LFS) from ONS.	New data for Q3 2016 (July to September): England Gender Age group Ethnicity Region Unitary authority/local area NS-SEC category Religion Condition
3a Emergency admissions for acute conditions that should not usually need hospital admission	Hospital Episode Statistics (HES) database, managed by NHS Digital and mid-year population estimates from ONS	New data for 2015/16 for: England Gender Age Lower tier local authority Upper tier local authority Region Deprivation decile Condition
3.2 Emergency admissions for children with lower respiratory tract infections	Hospital Episode Statistics (HES) database, managed by NHS Digital and mid-year population estimates from ONS	New data for 2015/16 for: England Gender Age Lower tier local authority Upper tier local authority Region Deprivation decile Condition
3.7.ii Tooth extractions due to decay for children admitted as inpatients to hospital	Hospital Episode Statistics (HES) database, managed by NHS Digital and mid-year population estimates from ONS	New data for 2015/16 for: England Gender Age Deprivation decile Lower tier local authority Upper tier local authority Region
5.1 Deaths from venous thromboembolism (VTE) related events	Hospital Episode Statistics (HES) database and linked HES-PCMD data, both managed by NHS Digital	New data for 2015/16 for: England

Appendix 2 - Change categories

This appendix gives further information about the change categories used in the main findings table and commentary section of this report. There are two ways change is measured, depending on whether confidence intervals are currently available for the data.

Confidence intervals show the range of values within which the true indicator value is expected to lie. They are used when the true value of something is uncertain because of random variation in the world around us. Narrow confidence intervals show that the indicator value is precise, wider confidence intervals show that the indicator is less precise.

For example, because of the relative sizes of the underlying populations, an indicator at England level will be more precise than a local value, i.e. the effect of random variation is greater when considering a smaller population.

When considering change over time we look at whether confidence intervals overlap from the starting period to the current period. If confidence intervals overlap this could be due to natural variation rather than a true change in the direction of the indicator.

If indicators are described as "Tested", the change over time has been statistically tested by looking at confidence intervals. These changes are classed as "Statistically Similar" where confidence intervals overlap, and where they don't, the change is categorised as "Significantly Improved" or "Significantly Deteriorated".

Where indicators are described as "Not Tested", indicator data are available but they do not currently have confidence intervals. "Not Tested" changes are classed as "Similar" if the percentage change is between -2.0 and +2.0 (inclusive) and either "Improved" or "Deteriorated" if not.

The "No Data" category is used in the key findings where the indicator is in development or the time series has not yet reached five years.

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